PMH CROFT
ARCHITECTS & ENGINEERS

ADDENDUM NO. 2
HGTC AUTOMOTIVE TECHNOLOGY
BUILDING 1400 EXPANSION
CONWAY, SOUTH CAROLINA
STATE PROJECT NUMBER H59-N302-CB
PMH | CROFT PROJECT NO. 2025-2006
October 24, 2025

NOTE: ADDENDUM NO. 2 IS BEING PUBLISHED ON THE OWNER'S WEBSITE FOR DISTRIBUTION. IT IS THE GENERAL CONTRACTORS RESPONSIBLITY FOR COMMUNICATION OF THE ITEMS CONTAINED WITHIN THIS ADDENDUM TO APPROPRIATE SUB-CONTRACTORS.

THIS ADDENDUM CONTAINS:

- FOUR (4) PAGES OF WRITTEN ADDENDUM
- FORTY-EIGHT (48) PAGES OF SPECIFICATIONS
- ONE (1) PAGE OF BULLETIN DRAWING

CLARIFICATION:

1. For clarification, the Bid Date has been changed to Tuesday, November 4, 2025 at 2:00 PM, local time.

QUESTIONS AND ANSWERS

Q1. THE EXISTING BUILDING APPEARS TO HAVE BEEN CONSTRUCTED IN THE 1970S. HAVE ANY ASBESTOS OR LEAD INSPECTIONS BEEN CONDUCTED? IF SO, PLEASE PROVIDE A COPY OF THE REPORT(S).

A1. No asbestos or lead inspections have been performed. Should asbestos or lead be encountered the cost to abate will be by Owner.

Q2. THE PROJECT SCOPE IN ADDENDUM #1 SAYS THE ROOF SYSTEM WILL BE PVC FULLY ADHERED MEMBRANE ON A LOW SLOPE ROOF BUT THE SPEC 07540 – THERMOPLASTIC MEMBRANE ROOFING DESCRIBES A TPO MECHANICALLY ATTACHED ROOF SYSTEM, WHICH ROOF SYSTEM IS TO BE FIGURED FOR THIS PROJECT?

A2. Roofing system shall be Polyvinyl-chloride (PVC). Omit Specification Section 07540 – Thermoplastic Membrane Roofing and replace with Specification Section 075419 – Polyvinyl-chloride (PVC) Roofing.

Q3. DRAWING A-351 B1 SHOWS TPO FULLY ADHERED, 1/2" COVERBOARD, 4" RIGID INSULATION, ROOF SUBSTRATE WITH AIR AND VAPOR RETARDER BUT THE SPEC 07540 DESCRIBES A MECHANICALLY ATTACHED TPO ROOF SYSTEM WITH NO MENTION OF A SUBSTRATE BOARD AND AIR AND VAPOR RETARDER, WHICH ROOF SYSTEM AND ITEMS NEED TO BE FIGURED FOR THIS PROJECT?

A3. Roofing system shall be Polyvinyl-chloride (PVC). Omit Specification Section 07540 – Thermoplastic Membrane Roofing and replace with Specification Section 075419 – Polyvinyl-chloride (PVC) Roofing.

Q4. FOR CLARIFICATION IS THE INTENT TO REMOVE THE EXISTING GUTTER/DOWNSPOUTS AND REPLACE WITH NEW GUTTER/DOWNSPOUTS, SOME OF THE NOTES ON AD101 SEEM TO CONTRADICT, NOTE F MENTIONS PATCHING THE EXISTING GUTTER? ALSO IS THE INTENT FOR THE NEW GUTTERS/DOWNSPOUTS TO MATCH THE EXISTING WHICH IS TYPICAL RESIDENTIAL/LIGHT COMMERCIAL OGEE GUTTER AND DOWNSPOUT, OR SHOULD THEY BE AS DESCRIBED IN SPEC 07621?

A4. Existing gutter and downspouts are to be removed and replaced with new gutter and downspouts as specified in Section 07621. Omit reference to 'K-style' gutter in details B6/A-351, L2/A-351, K8/A-351 and K14/A-351.

Q5. PLEASE PROVIDE THE DOOR, DOOR FRAME, AND HARDWARE MATERIAL TO BE USED TO REPLACE THE EXISTING ENTRY DOOR NOTED B BELOW. OR DIRECT ME TO THE PLAN PAGE/SPECS THIS IS CURRENTLY SHOWN.

A5. Main entry door is door 100 as shown on the Door Schedule A-601. Hardware is found in Specification Section 08710, page 22.

Q6. THE ARCHITECTURAL SHEET NOTES LEGEND ON A101 STATES TAG #13 IS THE "WATER HEATER LOCATION. SEE MEP PLANS". DETAIL A6 ON THIS PAGE FOR THE BASE BID SHOWS TAG #13 AT THE ORIGINAL LOCATION (WHICH IS WHERE MEP DRAWINGS STATE IT SHOULD BE), BUT THIS DETAIL ALSO SHOWS TAG #13 POINTING AT THE 8' CHAIN LINK FENCE LOCATION. ON DETAIL A1, IT SHOWS TAG #8 DEPICTING THE 89' CHAIN LINK FENCE. SHOULD DETAIL A7 SHOW TAG #8 AT THE 8' CHAIN LINK FENCE LOCATION AND NOT TAG #13?

A6. Refer to A-101, omit Tag #13 (water heater) at 129 Storage/Tool Crib.

Q7. IS THERE A SPECIFICATION FOR THE METAL CANOPY SHOWN ON DRAWING A-131 & A-201?

A7. See Bulletin Drawing B1 – Eyebrow Canopy (attached herewith)

Q8. WILL WE GET THE HYDRAULIC LIFT PRODUCT DATA/SPECS PRIOR TO BID DAY? AND WILL THOSE REQUIRE EXTRA REINFORCEMENTS UNDER/IN THE CONCRETE?

A8. Hydraulic lifts are by the Owner. Concrete slab has been designed to accommodate the lifts.

SPECIFICATIONS

1. DOCUMENT A101 – STANDARD FROM OF AGREEMENT BETWEEN OWENER AND CONTRACTOR (OSE VERSION)

   A. Contractor's attention is directed to DOCUMENT A101 – STANDARD FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR (OSE VERSION). Contractor is advised to omit this document in its entirety and replace with DOCUMENT A101 – STANDARD FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR (OSE VERSION) (attached herewith) consisting of 16 pages for inserting a check mark on Article 8.8.1., and the correct Scope of Work added.

2. DOCUMENT SE – 330 – LUMP SUM BID FORM

   A. Contractor's attention is directed to DOCUMENT SE – 330 – LUMP SUM BID FORM. Contractor is advised to omit this document in its entirety and replace with DOCUMENT SE – 330 – LUMP SUM BID FORM (attached herewith) consisting of 6 pages for the addition of explanation of Base Bid Work in Article 6.1.

3. SECTION 07270 – FIRESTOPPING

   A. Contractor's attention is directed to SECTION 07270 – FIRESTOPPING. Contractor is advised to insert this section (attached herewith) consisting of 8 pages.

4. SECTION 07540 - THERMOPLASTIC MEMBRANE ROOFING

   A. Contractor's attention is directed to SECTION 07540 – THERMOPLASTIC MEMBRANE ROOFING. Contractor is advised to omit this section it its entirety.

5. SECTION 075419 – POLYVINYL-CHLORIDE (PVC) ROOFING

   A. Contractor's attention is directed to SECTION 075419 - POLYVINYL-CHLORIDE (PVC) ROOFING. Contractor is advised to insert this section (attached herewith) consisting of 12 pages.

6. SECTION 08411 - ALUMINUM STOREFRONT – EXTERIOR WINDOWS

   A. Contractor's attention is directed to Article 2.6, B. Contractor to omit the following sentence "to match existing storefront windows".

7. SECTION 08412 – ALUMINUM FRAMED ENTRY DOORS

   A. Contractor's attention is directed to SECTION 08412 – ALUMINUM FRAMED ENTRY DOORS. Contractor is advised to insert this section (attached herewith) consisting of 6 pages.

DRAWINGS

1. SHEET A-131 – REFLECTED CEILING PLAN, SHEET A-151 – BASE BID – ROOF PLAN, SHEET A-201 – EXTERIOR ELEVATIONS, SHEET A-301 – BASE BID BUILDING SECTIONS (3 BAY), SHEET A-301A – ALTERNATE 1 BUILDING SECTIONS (4TH BAY)

   A. Contractor's attention is directed to BULLETIN DRAWING B1 – EYEBROW CANOPY. Contractor is advised to insert this page (attached herewith) consisting of 1 page dated 10/24/25 for details and specifications for canopy.

END OF ADDENDUM NO. 2

South Carolina Division of Procurement Services, Office of State Engineer Version of AIA® Document A101® – 2017

Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum

This version of AIA Document A101®–2017 is modified by the South Carolina Division of Procurement Services, Office of State Engineer ("SCOSE"). Publication of this version of AIA Document A101–2017 does not imply the American Institute of Architects' endorsement of any modification by SCOSE. A comparative version of AIA Document A101–2017 showing additions and deletions by SCOSE is available for review on the SCOSE Web site.

Cite this document as "AIA Document A101®–2017, Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum — SCOSE Version," or "AIA Document A101®–2017 — SCOSE Version."

South Carolina Division of Procurement Services, Office of State Engineer Version of AIA® Document A101®– 2017

Standard Form of Agreement Between Owner and Contractor *where the basis of payment is a Stipulated Sum*

AGREEMENT made as of the day of
in the year
(In words, indicate day, month and year.)

BETWEEN the Owner:
(Name, legal status, address and other information)

Horry Georgetown Technical College
2050 US Hwy 501 S
Conway, SC 29526

The Owner is a Governmental Body of the State of South Carolina as defined in S.C. Code Ann. § 11-35-310.

and the Contractor:
(Name, legal status, address and other information)

for the following Project:
(Name, State Project Number, location and detailed description)

HGTC - Automotive Technology
Building 1400 Expansion
H59-N302-CB
Conway, SC 29526

New construction of a 3,770 sq. ft. 3-bay addition with a 723 sq. ft. 4th bay as an alternate to the existing HGTC Automotive Technology Facility on the Conway Campus in South Carolina.. The building will be masonry, with brick pillars and façade on the front of the building. A new entry way will be constructed. Roof system will be PVC fully adhered membrane on a low slope roof and a Standing Seam metal system on the pitched roofs. The existing roof will be re-roofed with a Standing Seam metal roof system. A toilet room will be added in the existing building constructed of metal studs and gypsum board.

Interior finishes include acoustical ceiling system, epoxy flooring, LVT flooring and paint. Wood doors, overhead coiling doors, hollow metal doors and frames and hollow metal interior windows. Exterior window and entry door are aluminum storefront. HVAC, electrical and plumbing.

Site work the addition of several parking spaces, a dumpster enclosure, permeable pavers, standard and heavy duty asphalt.

The Architect:
(Name, legal status, address and other information)

CROFT & Associates SC, LLC dba: PMH CROFT
1300 Professional Drive, Suite 201
Myrtle Beach, SC 29577

The Owner and Contractor agree as follows:

This version of AIA Document A101–2017 is modified by the South Carolina Division of Procurement Services, Office of State Engineer. Publication of this version of AIA Document A101 does not imply the American Institute of Architects' endorsement of any modification by South Carolina Division of Procurement Services, Office of State Engineer. A comparative version of AIA Document A101–2017 showing additions and deletions by the South Carolina Division of Procurement Services, Office of State Engineer is available for review on South Carolina state Web site.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

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TABLE OF ARTICLES

ARTICLE 1 THE CONTRACT DOCUMENTS

§ 1.1 The Contract Documents consist of this Agreement, Conditions of the Contract (General, Supplementary, and other Conditions), Drawings, Specifications, Addenda issued prior to execution of this Agreement, other documents listed in this Agreement, and Modifications issued after execution of this Agreement, all of which form the Contract, and are as fully a part of the Contract as if attached to this Agreement or repeated herein. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. An enumeration of the Contract Documents, other than a Modification, appears in Article 9.

§ 1.2 Any reference in this document to the Agreement between the Owner and Contractor, AIA Document A101, or some abbreviated reference thereof, shall mean the AIA A101-2017 Standard Form of Agreement Between Owner and Contractor, SCOSE Version. Any reference in this document to the General Conditions of the Contract for Construction, AIA Document A201, or some abbreviated reference thereof, shall mean the AIA A201-2017 General Conditions of the Contract for Construction, SCOSE Version.

ARTICLE 2 THE WORK OF THIS CONTRACT

The Contractor shall fully execute the Work described in the Contract Documents, except as specifically indicated in the Contract Documents to be the responsibility of others.

ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 3.1 The Date of Commencement of the Work shall be the date fixed in a Notice to Proceed issued by the Owner. The Owner shall issue the Notice to Proceed to the Contractor in writing, no less than seven (7) days prior to the Date of Commencement. Unless otherwise provided elsewhere in the Contract Documents and provided the Contractor has secured all required insurance and surety bonds, the Contractor may commence work immediately after receipt of the Notice to Proceed.

§ 3.2 The Contract Time as provided in the Notice to Proceed for this project shall be measured from the Date of Commencement of the Work to Substantial Completion.

§ 3.3 Substantial Completion

§ 3.3.1 Subject to adjustments of the Contract Time as provided in the Contract Documents, the Contractor shall achieve Substantial Completion of the entire Work within the Contract Time indicated in the Notice to Proceed.

§ 3.3.2 If the Contractor fails to achieve Substantial Completion as provided in this Section 3.3, liquidated damages, if any, shall be assessed as set forth in Section 4.5.

ARTICLE 4 CONTRACT SUM

§ 4.1 The Owner shall pay the Contractor the Contract Sum, including all accepted alternates indicated in the bid documents, in current funds for the Contractor's performance of the Contract. The Contract Sum shall be

($), subject to additions and deductions as provided in the Contract Documents.

§ 4.2 Alternates

§ 4.2.1 Alternates that are accepted, if any, included in the Contract Sum:
(Insert the accepted Alternates.)

Item	Price

§ 4.3 Allowances, if any, included in the Contract Sum:
(Identify each allowance.)

Item	Price

§ 4.4 Unit prices, if any:
(Identify the item and state the unit price and quantity limitations, if any, to which the unit price will be applicable.)

Item	Units and Limitations	Price per Unit ($0.00)

§ 4.5 Liquidated damages

§ 4.5.1 Contractor agrees that from the compensation to be paid, the Owner shall retain as liquidated damages the amount indicated in Section 9(b) of the Bid Form for each calendar day the actual construction time required to achieve Substantial Completion exceeds the specified or adjusted time for Substantial Completion as provided in the Contract Documents. The liquidated damages amount is intended by the parties as the predetermined measure of compensation for actual damages, not as a penalty.

§ 4.6 Other:
(Insert provisions for bonus or other incentives, if any, that might result in a change to the Contract Sum.)

ARTICLE 5 PAYMENTS

§ 5.1 Progress Payments

§ 5.1.1 Based upon Applications for Payment submitted to the Architect and Owner by the Contractor and Certificates for Payment issued by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

§ 5.1.2 The period covered by each Application for Payment shall be one calendar month ending on the last day of the month, or as follows:

§ 5.1.3 The Owner shall make payment of the certified amount to the Contractor not later than twenty-one (21) days after receipt of the Application for Payment.

§ 5.1.4 Each Application for Payment shall be based on the most recent schedule of values submitted by the Contractor in accordance with the Contract Documents. The schedule of values shall allocate the entire Contract Sum among the various portions of the Work. The schedule of values shall be prepared in such form, and supported by such data to substantiate its accuracy, as the Architect may require. This schedule of values shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 5.1.5 Applications for Payment shall show the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.

§ 5.1.6 Subject to S.C. Code Ann. § 12-8-550 (Withholding Requirements for Payments to Non-Residents), in accordance with AIA Document A201®–2017, General Conditions of the Contract for Construction, and subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

§ 5.1.6.1 The amount of each progress payment shall first include:

- **.1** That portion of the Contract Sum properly allocable to completed Work;
- **.2** That portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction, or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing; and
- **.3** That portion of Construction Change Directives that the Architect determines, in the Architect's professional judgment, to be reasonably justified.

§ 5.1.6.2 The amount of each progress payment shall then be reduced by:

- **.1** The aggregate of any amounts previously paid by the Owner;
- **.2** The amount, if any, for Work that remains uncorrected and for which the Architect has previously withheld a Certificate for Payment as provided in Article 9 of AIA Document A201–2017;
- **.3** Any amount for which the Contractor does not intend to pay a Subcontractor or material supplier, unless the Work has been performed by others the Contractor intends to pay;
- **.4** For Work performed or defects discovered since the last payment application, any amount for which the Architect may withhold payment, or nullify a Certificate of Payment in whole or in part, as provided in Article 9 of AIA Document A201–2017; and
- **.5** Retainage withheld pursuant to Section 5.1.7.

§ 5.1.7 Retainage

§ 5.1.7.1 For each progress payment made prior to Substantial Completion of the Work, the Owner may withhold three and one-half percent (3.5%), as retainage, from the payment otherwise due.

§ 5.1.7.2 When a portion, or division, of Work as listed in the Schedule of Values is 100% complete, that portion of the retained funds which is allocable to the completed division must be released to the Contractor. No later than ten (10) days after receipt of retained funds from the Owner, the Contractor shall pay to the subcontractor responsible for such completed work the full amount of retainage allocable to the subcontractor's work.

§ 5.1.7.3 Upon Substantial Completion of the Work, the Contractor may submit an Application for Payment that includes the retainage withheld from prior Applications for Payment pursuant to this Section 5.1.7.

§ 5.1.8 If final completion of the Work is materially delayed through no fault of the Contractor, the Owner shall pay the Contractor any additional amounts in accordance with Article 9 of AIA Document A201–2017.

§ 5.1.9 Except with the Owner's prior approval, the Contractor shall not make advance payments to suppliers for materials or equipment which have not been delivered and stored at the site.

§ 5.2 Final Payment

§ 5.2.1 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when

.1 the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Article 12 of AIA Document A201–2017, and to satisfy other requirements, if any, which extend beyond final payment; and

.2 a final Certificate for Payment has been issued by the Architect.

§ 5.2.2 The Owner's final payment to the Contractor shall be made no later than twenty-one (21) days after the issuance of the Architect's final Certificate for Payment.

ARTICLE 6 DISPUTE RESOLUTION

§ 6.1 Claims and disputes shall be resolved in accordance with Article 15 of AIA Document A201–2017.

ARTICLE 7 TERMINATION OR SUSPENSION

§ 7.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A201–2017.

§ 7.2 The Work may be suspended by the Owner as provided in Article 14 of AIA Document A201–2017.

ARTICLE 8 MISCELLANEOUS PROVISIONS

§ 8.1 Where reference is made in this Agreement to a provision of AIA Document A201–2017 or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents.

§ 8.2 The Owner's representative:

§ 8.2.1 The Owner designates the individual listed below as its Senior Representative ("Owner's Senior Representative"), which individual has the responsibility for and, subject to Section 7.2.1 of the General Conditions, the authority to resolve disputes under Section 15.6 of the General Conditions:

Name:

Title:

Address:

Telephone:

Email:

§ 8.2.2 The Owner designates the individual listed below as its Owner's Representative, which individual has the authority and responsibility set forth in Section 2.1.1 of the General Conditions:

Name:

Title:

Address:

Telephone:

Email:

§ 8.3 The Contractor's representative:

§ 8.3.1 The Contractor designates the individual listed below as its Senior Representative ("Contractor's Senior Representative"), which individual has the responsibility for and authority to resolve disputes under Section 15.6 of the General Conditions:

Name:

Title:
Address:
Telephone:
Email:

§ 8.3.2 The Contractor designates the individual listed below as its Contractor's Representative, which individual has the authority and responsibility set forth in Section 3.1.1 of the General Conditions:

Name:
Title:
Address:
Telephone:
Email:

§ 8.4 Neither the Owner's nor the Contractor's representative shall be changed without ten days' prior notice to the other party.

§ 8.5 The Architect's representative:

Name:
Title:
Address:
Telephone:
Email:

§ 8.6 Insurance and Bonds

§ 8.6.1 The Owner and the Contractor shall purchase and maintain insurance as set forth in AIA Document A101®–2017, Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum, Exhibit A, Insurance and Bonds, and elsewhere in the Contract Documents.

§ 8.6.2 The Contractor shall provide bonds as set forth in AIA Document A101®–2017 Exhibit A, and elsewhere in the Contract Documents.

§ 8.7 Notice in electronic format, pursuant to Article 1 of AIA Document A201–2017, may be given in accordance with AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, if completed, or as otherwise set forth below:
(If other than in accordance with AIA Document E203–2013, insert requirements for delivering notice in electronic format such as name, title, and email address of the recipient and whether and how the system will be required to generate a read receipt for the transmission.)

§ 8.8 Other Provisions:

§ 8.8.1 Additional requirements, if any, for the Contractor's Construction Schedule are as follows:
(Check box if applicable to this Contract)
[X] The Construction Schedule shall be in a detailed precedence-style critical path management (CPM) or primavera-type format satisfactory to the Owner and the Architect that shall also (1) provide a graphic representation of all activities and events that will occur during performance of the Work; (2) identify each phase of construction and occupancy; and (3) set forth milestone dates that are critical in ensuring the timely and orderly completion of the Work in accordance with the requirements of the Contract Documents.

.1 Upon review by the Owner and the Architect for conformance with milestone dates and Construction Time given in the Bidding Documents, with associated Substantial Completion date, the Construction Schedule shall be deemed part of the Contract Documents and attached to the Agreement as an Exhibit. If returned for non-conformance, the Construction Schedule shall be promptly revised by the Contractor in accordance with the recommendations of the Owner and the Architect and resubmitted.

.2 The Contactor shall monitor the progress of the Work for conformance with the requirements of the Construction Schedule and shall promptly advise the Owner of any delays or potential delays. Whenever the Construction Schedule no longer reflects actual conditions and progress of the Work or the Contract Time is modified in accordance with the terms of the Contract Documents, the Contractor shall update the Construction Schedule to reflect such conditions.

.3 In the event any progress report indicates any delays, the Contractor shall propose an affirmative plan to correct the delay, including overtime and/or additional labor, if necessary.

.4 In no event shall any progress report constitute an adjustment in the Contract Time, any milestone date, or the Contract Sum unless any such adjustment is agreed to by the Owner and authorized pursuant to Change Order.

§ 8.8.2 The Owner's review of the Contractor's schedule is not conducted for the purpose of either determining its accuracy, completeness, or approving the construction means, methods, techniques, sequences or procedures. The Owner's review shall not relieve the Contractor of any obligations.

ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 This Agreement is comprised of the following documents:

.1 AIA Document A101®–2017, SCOSE Version Standard Form of Agreement Between Owner and Contractor

.2 AIA Document A101®–2017, Exhibit A, Insurance and Bonds

.3 AIA Document A201®–2017, SCOSE Version General Conditions of the Contract for Construction

.4 Form SE-390, Notice to Proceed – Construction Contract

.5 Drawings

Number	Title	Date

.6 Specifications

Section	Title	Date	Pages

.7 Addenda, if any:

Number	Date	Pages

Portions of Addenda relating to bidding or proposal requirements are not part of the Contract Documents unless the bidding or proposal requirements are also enumerated in this Article 9.

.8 Other Exhibits:
(Check all boxes that apply and include appropriate information identifying the exhibit where required.)

☐ AIA Document E204™–2017, Sustainable Projects Exhibit, dated as indicated below:
(Insert the date of the E204-2017 incorporated into this Agreement.)

☐ The Sustainability Plan:

Title	Date	Pages

☐ Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages

.9 Other documents, if any, listed below:
(List here any additional documents that are intended to form part of the Contract Documents. AIA Document A201®–2017 provides that the advertisement or invitation to bid, Instructions to Bidders, sample forms, the Contractor's bid or proposal, portions of Addenda relating to bidding or proposal requirements, and other information furnished by the Owner in anticipation of receiving bids or proposals, are not part of the Contract Documents unless enumerated in this Agreement. Any such documents should be listed here only if intended to be part of the Contract Documents.)

Form SE-310, Invitation for Construction Services
Instructions to Bidders (AIA Document A701-2018 OSE Version)
Form SE-330, Contractor's Bid (Completed Bid Form)
Form SE-370, Notice of Intent to Award
Certificate of Procurement Authority issued by the State Fiscal Accountability Authority

This Agreement entered into as of the day and year first written above.

OWNER *(Signature)*	**CONTRACTOR** *(Signature)*
(Printed name and title)	*(Printed name and title)*

South Carolina Division of Procurement Services, Office of State Engineer Version of AIA® Document A101® – 2017 Exhibit A

Insurance and Bonds

This Insurance and Bonds Exhibit is part of the Agreement, between the Owner and the Contractor, dated the day of in the year
(In words, indicate day, month and year.)

for the following **PROJECT**:
(Name, State Project Number, and location or address)

HGTC Automotive Expansion
H59-N302-CB
Conway, SC 29526

This version of AIA Document A101–2017 Exhibit A is modified by the South Carolina Division of Procurement, Office of State Engineer. Publication of this version of AIA Document A101 Exhibit A does not imply the American Institute of Architects' endorsement of any modification by the South Carolina Division of Procurement, Office of State Engineer.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

THE OWNER:
(Name, legal status and address)

Horry Georgetown Technical College
2050 US Hwy 501 S
Conway, SC 29526

The Owner is a Governmental Body of the State of South Carolina as defined by Title 11, Chapter 35 of the South Carolina Code of Laws, as amended.

THE CONTRACTOR:
(Name, legal status and address)

TABLE OF ARTICLES

ARTICLE A.1 GENERAL

The Owner and Contractor shall purchase and maintain insurance, and provide bonds, as set forth in this Exhibit. As used in this Exhibit, the term General Conditions refers to AIA Document A201®–2017, General Conditions of the Contract for Construction, SCOSE Version.

ARTICLE A.2 OWNER'S INSURANCE

§ A.2.1 General

Prior to commencement of the Work, the Owner shall secure the insurance, and provide evidence of the coverage, required under this Article A.2 and, upon the Contractor's request, provide a copy of the policies required by Section A.2.3. The copy of the policy or policies provided shall contain all applicable conditions, definitions, exclusions, and endorsements.

§ A.2.2 Liability Insurance

The Owner shall be responsible for purchasing and maintaining the Owner's usual general liability insurance.

§ A.2.3 Reserved

§ A.2.3.1 Reserved

§ A.2.3.1.1 Reserved

§ A.2.3.1.2 Reserved

§ A.2.3.1.3 Reserved

§ A.2.3.1.4 Reserved

§ A.2.3.2 Reserved

§ A.2.3.3 Reserved

§ A.2.4 Optional Insurance.

The Owner shall purchase and maintain any insurance selected below.

☐ **§ A.2.4.1 Other Insurance**

(List below any other insurance coverage to be provided by the Owner and any applicable limits.)

Coverage	Limits

ARTICLE A.3 CONTRACTOR'S INSURANCE AND BONDS

§ A.3.1 General

§ A.3.1.1 Certificates of Insurance. The Contractor shall provide certificates of insurance acceptable to the Owner evidencing compliance with the requirements in this Article A.3 at the following times: (1) prior to commencement of the Work; (2) upon renewal or replacement of each required policy of insurance; and (3) upon the Owner's written request. An additional certificate evidencing continuation of commercial liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment and thereafter upon renewal or replacement of such coverage until the expiration of the periods required by Section A.3.2.1 and Section A.3.3.1. The certificates will show the Owner as an additional insured on the Contractor's Commercial General Liability and excess or umbrella liability policy or policies. Information concerning reduction of coverage on account of revised limits or claims paid under the General Aggregate, or both, shall be furnished by the Contractor with reasonable promptness.

§ A.3.1.2 Deductibles and Self-Insured Retentions. The Contractor shall disclose to the Owner any deductible or self-insured retentions applicable to any insurance required to be provided by the Contractor.

§ A.3.1.3 Additional Insured Obligations. To the fullest extent permitted by law, the Contractor shall cause the commercial general liability coverage to include (1) the Owner, the Architect, and the Architect's consultants as additional insureds for claims caused in whole or in part by the Contractor's negligent acts or omissions during the

Contractor's operations; and (2) the Owner as an additional insured for claims caused in whole or in part by the Contractor's negligent acts or omissions for which loss occurs during completed operations. The additional insured coverage shall be primary and non-contributory to any of the Owner's general liability insurance policies and shall apply to both ongoing and completed operations, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable. To the extent commercially available, the additional insured coverage shall be no less than that provided by Insurance Services Office, Inc. (ISO) forms CG 20 10 07 04, CG 20 37 07 04, and, with respect to the Architect and the Architect's consultants, CG 20 32 07 04.

§ A.3.1.4 A failure by the Owner to either (i) demand a certificate of insurance or written endorsement required by Section A.3, or (ii) reject a certificate or endorsement on the grounds that it fails to comply with Section A.3, shall not be considered a waiver of Contractor's obligations to obtain the required insurance.

§ A.3.2 Contractor's Required Insurance Coverage

§ A.3.2.1 The Contractor shall purchase and maintain the following types and limits of insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Contractor shall maintain the required insurance until the expiration of the period for correction of Work as set forth in Section 12.2.2 of the General Conditions, for such other period for maintenance of completed operations coverage as specified in the Contract Documents, or unless a different duration is stated below:
(If the Contractor is required to maintain insurance for a duration other than the expiration of the period for correction of Work, state the duration.)

§ A.3.2.2 Commercial General Liability

§ A.3.2.2.1 Commercial General Liability insurance for the Project written on an occurrence form with policy limits of not less than $1,000,000 each occurrence, $1,000,000 general aggregate, $1,000,000 aggregate for products-completed operations hazard, $1,000,000 personal and advertising injury, $50,000 fire damage (any one fire), and $5,000 medical expense (any one person) providing coverage for claims including

.1 damages because of bodily injury, sickness or disease, including occupational sickness or disease, and death of any person;
.2 personal injury and advertising injury;
.3 damages because of physical damage to or destruction of tangible property, including the loss of use of such property;
.4 bodily injury or property damage arising out of completed operations; and
.5 the Contractor's indemnity obligations under Section 3.18 of the General Conditions.

§ A.3.2.2.2 The Contractor's Commercial General Liability policy under this Section A.3.2.2 shall not contain an exclusion or restriction of coverage for the following:

.1 Claims by one insured against another insured, if the exclusion or restriction is based solely on the fact that the claimant is an insured, and there would otherwise be coverage for the claim.
.2 Claims for property damage to the Contractor's Work arising out of the products-completed operations hazard where the damaged Work or the Work out of which the damage arises was performed by a Subcontractor.
.3 Claims for bodily injury other than to employees of the insured.
.4 Claims for indemnity under Section 3.18 of the General Conditions arising out of injury to employees of the insured.
.5 Claims or loss excluded under a prior work endorsement or other similar exclusionary language.
.6 Claims or loss due to physical damage under a prior injury endorsement or similar exclusionary language.
.7 Claims related to residential, multi-family, or other habitational projects, if the Work is to be performed on such a project.
.8 Claims related to roofing, if the Work involves roofing.
.9 Claims related to exterior insulation finish systems (EIFS), synthetic stucco or similar exterior coatings or surfaces, if the Work involves such coatings or surfaces.
.10 Claims related to earth subsidence or movement, where the Work involves such hazards.
.11 Claims related to explosion, collapse and underground hazards, where the Work involves such hazards.

§ A.3.2.3 Automobile Liability covering vehicles owned, and non-owned vehicles used, by the Contractor, with policy limits of not less than $1,000,000 per accident, for bodily injury, death of any person, and property damage arising out of the ownership, maintenance and use of those motor vehicles along with any other statutorily required automobile coverage.

§ A.3.2.4 The Contractor may achieve the required limits and coverage for Commercial General Liability, Employers Liability, and Automobile Liability through a combination of primary and excess or umbrella liability insurance, provided such primary and excess or umbrella insurance policies result in the same or greater coverage as the coverages required under Section A.3.2.2 and A.3.2.3, and in no event shall any excess or umbrella liability insurance provide narrower coverage than the primary policy. The excess policy shall not require the exhaustion of the underlying limits only through the actual payment by the underlying insurers. The umbrella policy limits shall not be less than $3,000,000.

§ A.3.2.5 Workers' Compensation at statutory limits.

§ A.3.2.6 Employers' Liability with policy limits not less than $100,000 each accident, $100,000 each employee, and $500,000 policy limit for claims, disability benefit and other similar employee benefit acts that are applicable to the Work to be performed.

§ A.3.2.7 Jones Act, and the Longshore & Harbor Workers' Compensation Act, as required, if the Work involves hazards arising from work on or near navigable waterways, including vessels and docks.

§ A.3.2.8 Insurance for maritime liability risks associated with the operation of a vessel, if the Work requires such activities, with policy limits of not less than ($) per claim and ($) in the aggregate.

§ A.3.2.9 Insurance for the use or operation of manned or unmanned aircraft, if the Work requires such activities, with policy limits of not less than ($) per claim and ($) in the aggregate.

§ A.3.3 Required Property Insurance

§ A.3.3.1 The Contractor shall purchase and maintain, from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located, property insurance written on a builder's risk "all-risks" completed value or equivalent policy form and sufficient to cover the total value of the entire Project on a replacement cost basis. The Contractor's property insurance coverage shall be no less than the amount of the initial Contract Sum, plus the value of subsequent Modifications and labor performed and materials or equipment supplied by others. The property insurance shall be maintained until Substantial Completion and thereafter as provided in Section A.3.3.1.3, unless otherwise provided in the Contract Documents or otherwise agreed in writing by the parties to this Agreement. This insurance shall include the interests of the Owner, Contractor, Subcontractors, and Sub-subcontractors in the Project as insureds.

§ A.3.3.1.1 Causes of Loss. The insurance required by this Section A.3.3.1 shall provide coverage for direct physical loss or damage and shall include the risks of fire (with extended coverage), explosion, theft, vandalism, malicious mischief, collapse, earthquake, flood, or windstorm. The insurance shall also provide coverage for ensuing loss or resulting damage from error, omission, or deficiency in construction methods, workmanship, or materials.
(Indicate below the cause of loss and any applicable sub-limit.)

Causes of Loss	Sub-Limit

§ A.3.3.1.2 Specific Required Coverages. The insurance required by this Section A.3.3.1 shall provide coverage for loss or damage to falsework and other temporary structures, and to building systems from testing and startup. The insurance shall also cover debris removal, including demolition occasioned by enforcement of any applicable legal requirements, and reasonable compensation for the Architect's and Contractor's services and expenses required as a result of such insured loss, including claim preparation expenses. (Indicate below the cause of loss and any applicable sub-limit.)

Causes of Loss	Sub-Limit

§ A.3.3.1.3 Unless the parties agree otherwise, upon Substantial Completion, the Owner shall replace the insurance policy required under Section A.3.3.1 with property insurance written for the total value of the Project.

§ A.3.3.1.4 Deductibles and Self-Insured Retentions. If the insurance required by this Section A.3.3 is subject to deductibles or self-insured retentions, the Contractor shall be responsible for all loss not covered because of such deductibles or retentions.

§ A.3.3.2 Occupancy or Use Prior to Substantial Completion. The Owner's occupancy or use of any completed or partially completed portion of the Work prior to Substantial Completion shall not commence until the insurance company or companies providing the insurance under Section A.3.3.1 have consented in writing to the continuance of coverage. The Owner and the Contractor shall take no action with respect to partial occupancy or use that would cause cancellation, lapse, or reduction of insurance, unless they agree otherwise in writing.

§ A.3.3.3 If the Owner requests in writing that insurance for risks other than those described herein or other special causes of loss be included in the property insurance policy, the Contractor shall, if possible, include such insurance, and the cost thereof shall be charged to the Owner by appropriate Change Order.

§ A.3.3.4 Before an exposure to loss may occur, the Contractor shall file with the Owner a copy of each policy that includes insurance coverages required by this Section A.3.3. Each policy shall contain all generally applicable conditions, definitions, exclusions and endorsements related to this Project.

§ A.3.4 Contractor's Other Insurance Coverage

§ A.3.4.1 Insurance selected and described in this Section A.3.4 shall be purchased from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Contractor shall maintain the required insurance until the expiration of the period for correction of Work as set forth in Section 12.2.2 of the General Conditions, unless a different duration is stated below:
(If the Contractor is required to maintain any of the types of insurance selected below for a duration other than the expiration of the period for correction of Work, state the duration.)

§ A.3.4.2 The Contractor shall purchase and maintain the following types and limits of insurance in accordance with Section A.3.4.1.
(Select the types of insurance the Contractor is required to purchase and maintain by placing an X in the box(es) next to the description(s) of selected insurance. Where policy limits are provided, include the policy limit in the appropriate fill point.)

☐ **§ A.3.4.2.1 Reserved**

☐ **§ A.3.4.2.2** Insurance for physical damage to property while it is in storage and in transit to the construction site on an "all-risks" completed value form.

☐ **§ A.3.4.2.3** Property insurance on an "all-risks" completed value form, covering property owned by the Contractor and used on the Project, including scaffolding and other equipment.

☐ **§ A.3.4.2.4 Boiler and Machinery Insurance**
The Contractor shall purchase and maintain boiler and machinery insurance as required, which shall specifically cover such insured objects during installation and until final acceptance by the Owner; this

insurance shall include interests of the Owner, Contractor, Subcontractors and Sub-subcontractors in the Work, and the Owner and Contractor shall be named insureds.

§ A.3.5 Performance Bond and Payment Bond

The Contractor shall provide surety bonds, from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located, as follows:
(Specify type and penal sum of bonds.)

Type	Penal Sum ($0.00)
Payment Bond	
Performance Bond	

§ A.3.5.1 Before commencing any services hereunder, the Contractor shall provide the Owner with Performance and Payment Bonds, each in an amount not less than the Contract Price set forth in Article 4 of the Agreement. The Surety shall have, at a minimum, a "Best Rating" of "A" as stated in the most current publication of "Best's Key Rating Guide, Property-Casualty". In addition, the Surety shall have a minimum "Best Financial Strength Category" of "Class V", and in no case less than five (5) times the contract amount. The Performance Bond shall be written on Form SE-355, "Performance Bond" and the Payment Bond shall be written on Form SE-357, "Labor and Material Payment Bond", and both shall be made payable to the Owner.

§ A.3.5.2 The Performance and Labor and Material Payment Bonds shall:

.1 be issued by a surety company licensed to do business in South Carolina;

.2 be accompanied by a current power of attorney and certified by the attorney-in-fact who executes the bond on the behalf of the surety company; and

.3 remain in effect for a period not less than one (1) year following the date of Substantial Completion or the time required to resolve any items of incomplete Work and the payment of any disputed amounts, whichever time period is longer.

§ A.3.5.3 Any bonds required by this Contract shall meet the requirements of the South Carolina Code of Laws and Regulations, as amended.

ARTICLE A.4 SPECIAL TERMS AND CONDITIONS

Special terms and conditions that modify this Insurance and Bonds Exhibit, if any, are as follows:

SE-330
LUMP SUM BID FORM

Bidders shall submit bids on only Bid Form SE-330.

BID SUBMITTED BY: _____

(Bidder's Name)

BID SUBMITTED TO: Horry Georgetown Technical College

(Agency's Name)

FOR: PROJECT NAME: HGTC - Automotive Technology Building Expansion 1400

PROJECT NUMBER: H59-N302-CB

OFFER

§ 1. In response to the Invitation for Construction Services and in compliance with the Instructions to Bidders for the above-named Project, the undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into a Contract with the Agency on the terms included in the Bidding Documents, and to perform all Work as specified or indicated in the Bidding Documents, for the prices and within the time frames indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

§ 2. Pursuant to SC Code § 11-35-3030(1), Bidder has submitted Bid Security in the amount and form required by the Bidding Documents.

§ 3. Bidder acknowledges the receipt of the following Addenda to the Bidding Documents and has incorporated the effects of said Addenda into this Bid:

(Bidder, check all that apply. Note, there may be more boxes than actual addenda. Do not check boxes that do not apply)

ADDENDA: ☐ **#1** ☐ **#2** ☐ **#3** ☐ **#4** ☐ **#5**

§ 4. Bidder accepts all terms and conditions of the Invitation for Bids, including, without limitation, those dealing with the disposition of Bid Security. Bidder agrees that this Bid, including all Bid Alternates, if any, may not be revoked or withdrawn after the opening of bids, and shall remain open for acceptance for a period of **60** Days following the Bid Date, or for such longer period of time that Bidder may agree to in writing upon request of the Agency.

§ 5. Bidder herewith offers to provide all labor, materials, equipment, tools of trades and labor, accessories, appliances, warranties and guarantees, and to pay all royalties, fees, permits, licenses and applicable taxes necessary to complete the following items of construction work:

§ 6.1 BASE BID WORK ***(as indicated in the Bidding Documents and generally described as follows)*****:** Construct a 3,500 sq. ft. addition to HGTC's Automotive Technology Building located on our Conway campus. Addition would be a block building with 3 or 4 bays. Facade would be block on 3 sides and brick along the front to match existing building. Mechanical, electrical, and plumbing will be required

$ _____, which sum is hereafter called the Base Bid.

(Bidder to insert Base Bid Amount on line above)

SE-330
LUMP SUM BID FORM

Bidders shall submit bids on only Bid Form SE-330.

§ 6.2 BID ALTERNATES as indicated in the Bidding Documents and generally described as follows:

ALTERNATE # 1 *(Brief Description)*: Contractor shall state price to provide a 4th Truck Bay. Amount to include all finishes, utilities, security, communications, etc. to match the Truck Baysunder the Base Bid. Price shall also include all labor, materials, taxes, overhead and profit.

☒ **ADD TO** or ☐ **DEDUCT FROM BASE BID: $** _____

(Bidder to mark appropriate box to clearly indicate the price adjustment offered for each Alternate)

ALTERNATE # 2 *(Brief Description)*: _____

☐ **ADD TO** or ☐ **DEDUCT FROM BASE BID: $** _____

(Bidder to mark appropriate box to clearly indicate the price adjustment offered for each Alternate)

ALTERNATE # 3 *(Brief Description)*: _____

☐ **ADD TO** or ☐ **DEDUCT FROM BASE BID: $** _____

(Bidder to mark appropriate box to clearly indicate the price adjustment offered for each Alternate)

§ 6.3 UNIT PRICES:

BIDDER offers for the Agency's consideration and use, the following UNIT PRICES. The UNIT PRICES offered by BIDDER indicate the amount to be added to or deducted from the CONTRACT SUM for each item-unit combination. UNIT PRICES include all costs to the Agency, including those for materials, labor, equipment, tools of trades and labor, fees, taxes, insurance, bonding, overhead, profit, etc. The Agency reserves the right to include or not to include any of the following UNIT PRICES in the Contract and to negotiate the UNIT PRICES with BIDDER prior to including in the Contract.

No.	ITEM	UNIT OF MEASURE	ADD	DEDUCT
1.	Unsuitable Soils Removal	cy.	$	$
2.	Structural Fill Material Placement	cy.	$	$
3.			$	$
4.			$	$
5.			$	$
6.			$	$

SE-330
LUMP SUM BID FORM

§ 7. LISTING OF PROPOSED SUBCONTRACTORS PURSUANT TO SECTION 3020(b)(i), CHAPTER 35, TITLE 11 OF THE SOUTH CAROLINA CODE OF LAWS, AS AMENDED

(See Instructions on page BF-2A)

Bidder shall use the below-listed Subcontractors in the performance of the Subcontractor Classification work listed:

(A) LICENSE CLASSIFICATION or SUBCLASSIFICATION ABBREVIATION per SCLLR *(Completed by Agency)*	(B) NAME of SUBCONTRACTOR and/or PRIME CONTRACTOR *(Completed by Bidder)*	(C) SUBCONTRACTOR'S and/or PRIME CONTRACTOR'S SC LICENSE NUMBER *(Completed by Bidder)*
BASE BID		
AC		
PB		
EL		
ALTERNATE #1		
ALTERNATE #2		
ALTERNATE #3		

SE-330
LUMP SUM BID FORM

INSTRUCTIONS FOR SUBCONTRACTOR LISTING

1. Section 7 of the Bid Form sets forth an Agency-developed list of subcontractor license classifications or subclassifications for which Bidder is required to identify the entity (subcontractor(s) and/or prime) Bidder will use to perform this work.
   a. **Column A**: The Agency enters the appropriate SCLLR abbreviation to identify the subcontractor license classification / subclassification for which the Bidder is required to list either a subcontractor or itself as the entity that will perform the work. Abbreviations of licenses can be found at:
   https://llr.sc.gov/clb/PDFFiles/CLBClassificationAbbreviations.pdf. If the Agnecy has not identified a subcontractor license classification/subclassification, the Bidder does not list a subcontractor.
   b. **Columns B and C:** The Bidder identifies the subcontractors, by name and license number, it will use for the work of each license listed by the Agency in Column A. Bidder must identify only the subcontractor(s) who will perform the work and no others. Bidders must make sure that their identification of each subcontractor is clear and unambiguous. A listing that could be any number of different entities may be cause for rejection of the bid as non-responsive. For example, a listing of M&M without additional information may be problematic if there are multiple different licensed contractors in South Carolina whose names start with M&M.
2. **Subcontractor Defined:** For purposes of subcontractor listing, a subcontractor is an entity who will perform work or render service to the prime contractor to or about the construction site pursuant to a contract with the prime contractor. Bidder should not identify sub-subcontractors in the spaces provided on the bid form but only those entities with which Bidder will contract directly. Do not identify material suppliers, manufacturers, and fabricators that will not perform physical work at the site of the project but will only supply materials or equipment to the Bidder or proposed subcontractor(s).
3. **Subcontractor Qualifications:** Bidder must only list subcontractors who possess a South Carolina contractor's license that includes the license classification and/or subclassification identified by the Agency in Column A. The subcontractor license must also be within the appropriate license group for the work (do not list the Group number). If Bidder lists a subcontractor who is not qualified to perform the work, the Bidder will be rejected as non-responsible.
4. **Use of Own forces:** If, under the terms of the Bidding Documents and SC Contractor Licensing laws, Bidder is qualified to perform the work of a listed subcontractor classification or subclassification and Bidder does not intend to subcontract such work but to use Bidder's own employees to perform such work, the Bidder must insert itself in the space provided.
5. **Use of Multiple Subcontractors:**
   a. If Bidder intends to use multiple subcontractors to perform the work of a single license classification/subclassification, Bidder must insert the name of each subcontractor Bidder will use, preferably separating the name of each by the word **"and"**. If Bidder intends to use both his own employees to perform a part of the work of a single license classification/subclassification and to use one or more subcontractors to perform the remaining work, Bidder must insert itself and each subcontractor, preferably separating them with the word **"and"**. Bidder must use each entity listed for the work of a single license classification/subclassification in the performance of that work.
   b. **Optional Listing Prohibited:** Bidder may not list multiple subcontractors for a license classification/subclassification in a form that provides the Bidder the option, after bid opening or award, to choose one or more but not all the listed subcontractors to perform the work for which they are listed. A listing, which on its face requires subsequent explanation to determine whether it is an optional listing, is non-responsive. If Bidder intends to use multiple entities to perform the work for a single listing, Bidder must clearly set forth on the bid form such intent. Bidder may accomplish this by simply inserting the word "**and**" between the names of each entity listed. Agency will reject as non-responsive a listing that contains the names of multiple subcontractors separated by a blank space, the word "or", a virgule (that is a /), or any separator that the Agency may reasonably interpret as an optional listing.
6. If Bidder is awarded the contract, Bidder will not be allowed to substitute another entity as subcontractor in place of a subcontractor listed in Section 7 of the Bid except for one or more of the reasons allowed by the SC Code of Laws.
7. Bidder's failure to identify an entity (subcontractor or itself) to perform the work of a subcontractor listed in Column A will render the Bid non-responsive.

SE-330
LUMP SUM BID FORM

§ 8. LIST OF MANUFACTURERS, MATERIAL SUPPLIERS, AND SUBCONTRACTORS OTHER THAN SUBCONTRACTORS LISTED IN SECTION 7 ABOVE *(FOR INFORMATION ONLY):*

Pursuant to instructions in the Invitation for Construction Services, if any, Bidder will provide to Agency upon the Agency's request and within 24 hours of such request, a listing of manufacturers, material suppliers, and subcontractors, other than those listed in Section 7 above, that Bidder intends to use on the project. Bidder acknowledges and agrees that this list is provided for purposes of determining responsibility and not pursuant to the subcontractor listing requirements of SC Code § 11-35-3020(b)(i).

§ 9. TIME OF CONTRACT PERFORMANCE AND LIQUIDATED DAMAGES

a) CONTRACT TIME

Bidder agrees that the Date of Commencement of the Work shall be established in a Notice to Proceed to be issued by the Agency. Bidder agrees to substantially complete the Work within **168** Calendar Days from the Date of Commencement, subject to adjustments as provided in the Contract Documents.

b) LIQUIDATED DAMAGES

Bidder further agrees that from the compensation to be paid, the Agency shall retain as Liquidated Damages the amount of $**500.00** for each Calendar Day the actual construction time required to achieve Substantial Completion exceeds the specified or adjusted time for Substantial Completion as provided in the Contract Documents. This amount is intended by the parties as the predetermined measure of compensation for actual damages, not as a penalty for nonperformance.

§ 10. AGREEMENTS

a) Bidder agrees that this bid is subject to the requirements of the laws of the State of South Carolina.

b) Bidder agrees that at any time prior to the issuance of the Notice to Proceed for this Project, this Project may be canceled for the convenience of, and without cost to, the State.

c) Bidder agrees that neither the State of South Carolina nor any of its agencies, employees or agents shall be responsible for any bid preparation costs, or any costs or charges of any type, should all bids be rejected or the Project canceled for any reason prior to the issuance of the Notice to Proceed.

§ 11. ELECTRONIC BID BOND

By signing below, the Principal is affirming that the identified electronic bid bond has been executed and that the Principal and Surety are firmly bound unto the State of South Carolina under the terms and conditions of the AIA Document A310, Bid Bond, referenced in the Bidding Documents.

ELECTRONIC BID BOND NUMBER: _____

SIGNATURE AND TITLE: _____

SE-330
LUMP SUM BID FORM

CONTRACTOR'S CLASSIFICATIONS AND SUBCLASSIFICATIONS WITH LIMITATION

SC Contractor's License Number(s): _____

Classification(s) & Limits: _____

Subclassification(s) & Limits: _____

By signing this Bid, the person signing reaffirms all representation and certification made by both the person signing and the Bidder, including without limitation, those appearing in Article 2 of the SCOSE Version of the AIA Document A701, Instructions to Bidders, is expressly incorporated by reference.

BIDDER'S LEGAL NAME: _____

ADDRESS: _____

_____

TELEPHONE: _____

EMAIL: _____

SIGNATURE: _____ **DATE:** _____

PRINT NAME: _____

TITLE: _____

SECTION 07270 – FIRESTOPPING

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes firestopping for the following:

1. Penetrations through fire-resistance-rated floor and roof construction including both empty openings and openings containing cables, pipes, ducts, conduits, and other penetrating items.
2. Penetrations through fire-resistance-rated walls and partitions including both empty openings and openings containing cables, pipes, ducts, conduits, and other penetrating items.
3. Penetrations through smoke barriers and construction enclosing compartmentalized areas involving both empty openings and openings containing penetrating items.
4. Sealant joints in fire-resistance-rated construction.

B. Related Sections: The following Sections contain requirements that relate to this Section:

1. Division 3 Section "Cast-In-Place Concrete" for construction of openings in concrete slabs.
2. Division 4 Section "Concrete Masonry Units" for joint fillers for non-fire-resistive-rated masonry construction.
3. Division 7 Section "Building Insulation" for safing insulation and accessories.
4. Division 7 Section "Joint Sealants" for non-fire-resistive-rated joint sealants.
5. Divisions 22 & 23 for Sections specifying ducts and piping penetrations.
6. Division 26 for Sections specifying cable and conduit penetrations.

1.3 SYSTEM PERFORMANCE REQUIREMENTS

A. General: Provide firestopping systems that are produced and installed to resist the spread of fire, according to requirements indicated, and the passage of smoke and other gases.

B. F-Rated Through-Penetration Firestop Systems: Provide through-penetration firestop systems with F ratings indicated, as determined per ASTM E 814, but not less than that equaling or exceeding the fire-resistance rating of the constructions penetrated.

C. T-Rated Through-Penetration Firestop Systems: Provide through-penetration firestop systems with T ratings, in addition to F ratings, as determined per ASTM E 814, where indicated and where systems protect penetrating items exposed to contact with adjacent materials in occupiable floor areas. T-rated assemblies are required where the following conditions exist:

1. Where firestop systems protect penetrations located outside of wall cavities.
2. Where firestop systems protect penetrations located outside fire-resistive shaft enclosures.
3. Where firestop systems protect penetrations located in construction containing doors required to have a temperature-rise rating.
4. Where firestop systems protect penetrating items larger than a 4 inch (100 mm) diameter nominal pipe or 16 sq. in. (100 sq. cm) in overall cross-sectional area.

D. Fire-Resistive Joint Sealants: Provide joint sealants with fire-resistance ratings indicated, as determined per ASTM E 119, but not less than that equaling or exceeding the fire-resistance rating of the construction in which the joint occurs.
E. For firestopping exposed to view, traffic, moisture, and physical damage, provide products that do not deteriorate when exposed to these conditions.

1. For piping penetrations for plumbing and wet-pipe sprinkler systems, provide moisture-resistant through-penetration firestop systems.
2. For floor penetrations with annular spaces exceeding 4 inches (100 mm) or more in width and exposed to possible loading and traffic, provide firestop systems capable of supporting the floor loads involved either by installing floor plates or by other means.
3. For penetrations involving insulated piping, provide through-penetration firestop systems not requiring removal of insulation.

1.4 SUBMITTALS

A. General: Submit the following according to Conditions of Contract and Division 1 Specification Sections.

B. Product data for each type of product specified.

1. Certification by firestopping manufacturer that products supplied comply with local regulations controlling use of volatile organic compounds (VOCs) and are nontoxic to building occupants.

C. Product certificates signed by manufacturers of firestopping products certifying that their products comply with specified requirements.

D. Product test reports from, and based on tests performed by, a qualified testing and inspecting agency evidencing compliance of firestopping with requirements based on comprehensive testing of current products.

E. Qualification data for firms and persons specified in "Quality Assurance" article to demonstrate their capabilities and experience. Include list of completed projects with project names, addresses, names of Architects and Owners, and other information specified.

1.5 QUALITY ASSURANCE

A. Fire-Test-Response Characteristics: Provide firestopping that complies with the following requirements and those specified under the "System Performance Requirements" article:

1. Firestopping tests are performed by a qualified testing and inspecting agency. A qualified testing and inspecting agency is UL, Warnock Hersey, or another agency performing testing and follow-up inspection services for firestop systems that is acceptable to authorities having jurisdiction.
2. Through-penetration firestop systems are identical to those tested per ASTM E 814 under conditions where positive furnace pressure differential of at least 0.01 inch of water (2.5 Pa) is maintained at a distance of 0.78 inch (20 mm) below the fill materials surrounding the penetrating items in the test assembly. Provide rated systems complying with the following requirements:

a. Through-penetration firestop system products bear classification marking of qualified testing and inspecting agency.
b. Through-penetration firestop systems correspond to those indicated by reference to through-penetration firestop system designations listed by UL in their "Fire Resistance Directory," by Warnock Hersey, or by another qualified testing and inspecting agency.

3. Fire-resistive joint sealant systems are identical to those tested for fire-response characteristics per ASTM E 119 under conditions where the positive furnace pressure differential is at least 0.01 inch of water (2.5 Pa), as measured 0.78 inch (20 mm) from the face exposed to furnace fire. Provide systems complying with the following requirements:

   a. Fire-Resistance Ratings of Joint Sealants: As indicated by reference to design designations listed by UL in their "Fire Resistance Directory" or by another qualified testing and inspecting agency.
   b. Joint sealants, including backing materials, bear classification marking of qualified testing and inspection agency.

B. Information on drawings referring to specific design designations of through-penetration firestop systems is intended to establish requirements for performance based on conditions that are expected to exist during installation. Any changes in conditions and designated systems require the Architect's prior approval. Submit documentation showing that the performance of proposed substitutions equals or exceeds that of the systems they would replace and are acceptable to authorities having jurisdiction.

C. Installer Qualifications: Engage an experienced Installer who has completed firestopping that is similar in material, design, and extent to that indicated for Project and that has performed successfully.

D. Single-Source Responsibility: Obtain through-penetration firestop systems for each kind of penetration and construction condition indicated from a single manufacturer.

E. Provide firestopping products containing no detectable asbestos as determined by the method specified in 40 CFR Part 763, Subpart F, Appendix A, Section 1, "Polarized Light Microscopy."

F. Coordinating Work: Coordinate construction of openings and penetrating items to ensure that designated through-penetration firestop systems are installed per specified requirements.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver firestopping products to Project site in original, unopened containers or packages with intact and legible manufacturers' labels identifying product and manufacturer; date of manufacture; lot number; shelf life, if applicable; qualified testing and inspecting agency's classification marking applicable to Project; curing time; and mixing instructions for multicomponent materials.

B. Store and handle firestopping materials to prevent their deterioration or damage due to moisture, temperature changes, contaminants, or other causes.

1.7 PROJECT CONDITIONS

A. Environmental Conditions: Do not install firestopping when ambient or substrate temperatures are outside limits permitted by firestopping manufacturers or when substrates are wet due to rain, frost, condensation, or other causes.

B. Ventilation: Ventilate firestopping per firestopping manufacturers' instructions by natural means or, where this is inadequate, forced air circulation.

PART 2 – PRODUCTS

2.1 FIRESTOPPING, GENERAL

A. Compatibility: Provide firestopping composed of components that are compatible with each other, the substrates forming openings, and the items, if any, penetrating the firestopping under conditions of service and application, as demonstrated by firestopping manufacturer based on testing and field experience.

B. Accessories: Provide components for each firestopping system that are needed to install fill materials and to comply with "System Performance Requirements" article in Part 1. Use only components specified by the firestopping manufacturer and approved by the qualified testing and inspecting agency for the designated fire-resistance-rated systems. Accessories include but are not limited to the following items:

1. Permanent forming/damming/backing materials including the following:

    a. Semirefractory fiber (mineral wool) insulation.
    b. Ceramic fiber.
    c. Sealants used in combination with other forming/damming materials to prevent leakage of fill materials in liquid state.
    d. Fire-rated formboard.
    e. Joint fillers for joint sealants.

2. Temporary forming materials.
3. Substrate primers.
4. Collars.
5. Steel sleeves.

C. Applications: Provide firestopping systems composed of materials specified in this Section that comply with system performance and other requirements.

2.2 FILL MATERIALS FOR THROUGH-PENETRATION FIRESTOP SYSTEMS

A. Ceramic-Fiber and Mastic Coating: Ceramic fibers in bulk form formulated for use with mastic coating, and ceramic fiber manufacturer's mastic coating.

B. Ceramic-Fiber Sealant: Single-component formulation of ceramic fibers and inorganic binders.

C. Endothermic, Latex Compound Sealant: Single-component, endothermic, latex formulation.

D. Intumescent, Latex Sealant: Single-component, intumescent, latex formulation.

E. Intumescent Putty: Nonhardening, dielectric, water-resistant putty containing no solvents, inorganic fibers, or silicone compounds.

F. Intumescent Wrap Strips: Single-component, elastomeric sheet with aluminum foil on one side.

G. Job-Mixed Vinyl Compound: Prepackaged vinyl-based powder product for mixing with water at Project site to produce a paintable compound, passing ASTM E 136, with flame-spread and smoke-developed ratings of zero per ASTM E 84.

H. Mortar: Prepackaged dry mix composed of a blend of inorganic binders, fillers, and lightweight aggregate formulated for mixing with water at Project site to form a nonshrinking, homogenous mortar.

I. Pillows/Bags: Re-usable, heat-expanding pillows/bags composed of glass-fiber cloth cases filled with a combination of mineral-fiber, water-insoluble expansion agents and fire-retardant additives.

J. Silicone Foam: Two-component, silicone-based liquid elastomer that, when mixed, expands and cures in place to produce a flexible, nonshrinking foam.

K. Silicone Sealant: Moisture-curing, single-component, silicone-based, neutral-curing elastomeric sealant of grade indicated below:

1. Grade: Pourable (self-leveling) formulation for openings in floors and other horizontal surfaces and nonsag formulation for openings in vertical and other surfaces requiring a nonslumping/ gunnable sealant, unless indicated firestop system limits use to nonsag grade for both opening conditions.
2. Grade for Horizontal Surfaces: Pourable (self-leveling) grade for openings in floors and other horizontal surfaces.
3. Grade for Vertical Surfaces: Nonsag grade for openings in vertical and other surfaces.

L. Solvent-Release-Curing Intumescent Sealant: Solvent-release-curing, single-component, synthetic-polymer-based sealant of grade indicated below:

1. Grade for Horizontal Surfaces: Pourable (self-leveling) grade for openings in floors and other horizontal surfaces.
2. Grade for Vertical Surfaces: Nonsag grade for openings in vertical and other surfaces.

M. Products: Subject to compliance with requirements, provide one of the following:

1. Ceramic-Fiber and Mastic Coating:

    a. FireMaster Bulk and FireMaster Mastic, Thermal Ceramics.

2. Ceramic-Fiber Sealant:

    a. Metacaulk 525, The RectorSeal Corporation.

3. Endothermic, Latex Sealant:

    a. Fyre-Shield, Tremco Inc.

4. Endothermic, Latex Compounds:

    a. Flame-Safe FS500/600 Series, International Protective Coatings Corp.
    b. Flame-Safe FS900/FST900 Series, International Protective Coatings Corp.

5. Intumescent Latex Sealant:

    a. Metacaulk 950, The RectorSeal Corporation.
    b. Fire Barrier CP 25WB Caulk, 3M Fire Protection Products.

6. Intumescent Putty:

    a. Pensil 500 Intumescent Putty, General Electric Co.
    b. Flame-Safe FSP1000 Putty, International Protective Coatings Corp.
    c. Fire Barrier Moldable Putty, 3M Fire Protection Products.

7. Intumescent Wrap Strips:

a. Dow Corning Fire Stop Intumescent Wrap Strip 2002, Dow Corning Corp.
b. CS2420 Intumescent Wrap, Hilti Construction Chemicals, Inc.
c. Fire Barrier FS-195 Wrap/Strip, 3M Fire Protection Products.

8. Job-Mixed Vinyl Compound:

   a. USG Firecode Compound, United States Gypsum Co.

9. Mortar:

   a. K-2 Firestop Mortar, Bio Fireshield, Inc.
   b. Novasit K-10 Firestop Mortar, Bio Fireshield, Inc.
   c. KBS-Mortar Seal, International Protective Coatings Corp.

10. Pillows/Bags:

    a. Firestop Pillows, Bio Fireshield, Inc.
    b. KBS Sealbags, International Protective Coatings Corp.

11. Silicone Foams:

    a. Dow Corning Fire Stop Foam 2001, Dow Corning Corp.
    b. Pensil 200 Foam, General Electric Co.

12. Silicone Sealants:

    a. Dow Corning Firestop Sealant 2000, Dow Corning Corp.
    b. Dow Corning Firestop Sealant SL 2003, Dow Corning Corp.
    c. Pensil 100 Firestop Sealant, General Electric Co.
    d. CS240 Firestop Sealant, Hilti Construction Chemicals, Inc.
    e. Metacaulk 835, The RectorSeal Corporation.
    f. Metacaulk 880, The RectorSeal Corporation.
    g. Fyre-Sil, Tremco Inc.
    h. Fyre-Sil S/L, Tremco Inc.

13. Solvent-Release-Curing Intumescent Sealants:

    a. Biostop 500 Intumescent Firestop Caulk, Bio Fireshield, Inc.
    b. Fire Barrier CP 25N/S Caulk, 3M Fire Protection Products.
    c. Fire Barrier CP 25S/L Caulk, 3M Fire Protection Products.

2.3 FIRE-RESISTIVE ELASTOMERIC JOINT SEALANTS

A. Elastomeric Sealant Standard: Provide manufacturer's standard chemically curing, elastomeric sealants of base polymer indicated that complies with ASTM C 920 requirements, including those referenced for Type, Grade, Class, and Uses, and requirements specified in this Section applicable to fire-resistive joint sealants.

B. Sealant Colors: Provide color of exposed joint sealants to comply with the following:

   1. Provide selections made by Architect from manufacturer's full range of standard colors for products of type indicated.

C. Single-Component, Neutral-Curing Silicone Sealant: Type S; Grade NS; Class 25; exposure-related Use NT, and joint-substrate-related Uses M, G, A, and (as applicable to joint substrates indicated) O.

D. Available Products: Subject to compliance with requirements, products that may be incorporated in the Work include, but are not limited to, the following:

E. Products: Subject to compliance with requirements, provide one of the following:

1. Single-Component, Neutral-Curing, Silicone Sealant:

a. Dow Corning 790, Dow Corning Corp.
b. Dow Corning 795, Dow Corning Corp.
c. Silpruf, General Electric Co.
d. Ultraglaze, General Electric Co.
e. 864, Pecora Corp.

PART 3 – EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Installer present, for compliance with requirements for opening configurations, penetrating items, substrates, and other conditions affecting performance of firestopping. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Surface Cleaning: Clean out openings and joints immediately prior to installing firestopping to comply with recommendations of firestopping manufacturer and the following requirements:

1. Remove all foreign materials from surfaces of opening and joint substrates and from penetrating items that could interfere with adhesion of firestopping.
2. Clean opening and joint substrates and penetrating items to produce clean, sound surfaces capable of developing optimum bond with firestopping. Remove loose particles remaining from cleaning operation.
3. Remove laitance and form release agents from concrete.

3.3 INSTALLING THROUGH-PENETRATION FIRESTOPS

A. General: Comply with the "System Performance Requirements" article in Part 1 and the through-penetration firestop manufacturer's installation instructions and drawings pertaining to products and applications indicated.

B. Install forming/damming materials and other accessories of types required to support fill materials during their application and in the position needed to produce the cross-sectional shapes and depths required to achieve fire ratings of designated through-penetration firestop systems. After installing fill materials, remove combustible forming materials and other accessories not indicated as permanent components of firestop systems.

C. Install fill materials for through-penetration firestop systems by proven techniques to produce the following results:

1. Completely fill voids and cavities formed by openings, forming materials, accessories, and penetrating items.

2. Apply materials so they contact and adhere to substrates formed by openings and penetrating items.
3. For fill materials that will remain exposed after completing Work, finish to produce smooth, uniform surfaces that are flush with adjoining finishes.

3.4 INSTALLING FIRE-RESISTIVE JOINT SEALANTS

A. General: Comply with the "System Performance Requirements" article in Part 1, with ASTM C 1193, and with the sealant manufacturer's installation instructions and drawings pertaining to products and applications indicated.

B. Install joint fillers to provide support of sealants during application and at position required to produce the cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability and develop fire-resistance rating required.

C. Install sealants by proven techniques that result in sealants directly contacting and fully wetting joint substrates, completely filling recesses provided for each joint configuration, and providing uniform, cross-sectional shapes and depths relative to joint width that optimum sealant movement capability. Install sealants at the same time joint fillers are installed.

D. Tool nonsag sealants immediately after sealant application and prior to the time skinning or curing begins. Form smooth, uniform beads of configuration indicated or required to produce fire-resistance rating, as well as to eliminate air pockets, and to ensure contact and adhesion of sealants with sides of joint. Remove excess sealant from surfaces adjacent to joint. Do not use tooling agents that discolor sealants or adjacent surfaces or are not approved by sealant manufacturer.

3.5 CLEANING

A. Clean off excess fill materials and sealants adjacent to openings and joints as work progresses by methods and with cleaning materials approved by manufacturers of firestopping products and of products in which opening and joints occur.

B. Protect firestopping during and after curing period from contact with contaminating substances or from damage resulting from construction operations or other causes so that they are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated firestopping immediately and install new materials to produce firestopping complying with specified requirements.

END OF SECTION 07270

SECTION 075419 – POLYVINYL-CHLORIDE (PVC) ROOFING

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes but is not limited to the following:

1. Insulation and Coverboard.
2. Fully Adhered Polyvinyl-Chloride Roofing Membrane.

B. Related Sections include the following:

1. Section 013000 “Submittals”.
2. Section 061000 "Rough Carpentry".
3. Section 076200 "Flashing and Sheet Metal".
4. Section 079200 “Sealants and Caulking."

1.3 DEFINITIONS

A. Roofing Terminology: Refer to ASTM D1079 and glossary of NRCA's "The NRCA Roofing and Waterproofing Manual" for definition of terms related to roofing work in this Section.

B. Design Uplift Pressure: The uplift pressure, calculated according to procedures in SPRI's "Wind Load Design Guide for Fully Adhered and Mechanically Fastened Roofing Systems," before multiplication by a safety factor.

C. Factored Design Uplift Pressure: The uplift pressure, calculated according to procedures in SPRI's "Wind Load Design Guide for Fully Adhered and Mechanically Fastened Roofing Systems," after multiplication by a safety factor.

1.4 PERFORMANCE REQUIREMENTS

A. General: Provide installed roofing membrane and base flashings that remain watertight; do not permit the passage of water; and resist specified uplift pressures, thermally induced movement, and exposure to weather without failure.

B. Material Compatibility: Provide roofing materials that are compatible with one another under conditions of service and application required, as demonstrated by roofing membrane manufacturer based on testing and field experience.

C. Roofing System Design: Provide a membrane roofing system that is identical to systems that have been successfully tested by a qualified testing and inspecting agency to resist the factored design uplift pressures calculated according to SPRI's "Wind Load Design Guide for Fully Adhered and Mechanically Fastened Roofing Systems."

1. Roofing system design shall meet or exceed a FM 1-90 rated system.

1.5 DESCRIPTION OF WORK

A. Work required in this specification is referenced below and is based on Carlisle Syntec Products and Specifications. A polyvinyl-chloride roof system from Sika Sarnafil (SS), Johns Manville (JM), Siplast or Soprema installed in accordance with the requirements and procedures listed in this Specification will be accepted. Acceptable SS and Soprema products are listed in parentheses following listed Carlisle Syntec products in Part 2 of this Spec Section.

B. Roof System:

1. Fully Adhered 60 mil PVC roof membrane such as:

a. Carlisle Syntec Sure-Flex PVC membrane
b. Sika Sarnafil S327 PVC membrane
c. Johns Manville PVC SD Plus membrane
d. Siplast Parasolo PVC membrane
e. Soprema Sentinel P150 PVC membrane

1.6 SUPERVISION

A. Contractor shall assign a full-time, English speaking, qualified Roofing Sup't. to the project to coordinate the various aspects of the work; to provide Quality Control Services for the project; and to serve as liason with the Owner's representative.

B. The roofing crew shall be supervised at all times by Contractor's full-time, English speaking Foreman.

1.7 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings: For roofing system. Include plans, sections, and details of attachments to other Work.

1. Base flashings and membrane terminations.
2. Roof drain termination.
3. Tapered insulation, including slopes
4. Insulation fastening patterns.
5. PVC Seam layout.

C. Samples for Verification: For the following products:

1. 12-by-12-inch (300-by-300-mm) square of sheet roofing, of color specified, including T-shaped side and end lap seam.
2. 12-inch (300-mm) length of metal termination bars.
3. 12-inch (300-mm) length of battens.
4. Four roof membrane cover fasteners of each type, length, and finish.

D. Installer Certificates: Signed by roofing system manufacturer certifying that Installer is approved, authorized, or licensed by manufacturer to install roofing system.

E. Manufacturer Certificates: Signed by roofing manufacturer certifying that roofing system complies with requirements specified in "Performance Requirements" Article.

1. Submit evidence of meeting performance requirements.

F. Qualification Data: For Installer and manufacturer.

1. Product Test Reports: Based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified testing agency, for components of roofing system.
2. Research/Evaluation Reports: For components of membrane roofing system.
3. Maintenance Data: For roofing system to include in maintenance manuals.
4. Submittal of sample warranty provides Architect or Owner an opportunity to further verify that warranty coverage meets requirements.
5. Warranties: Special warranties specified in this Section.
6. Inspection Report: Copy of roofing system manufacturer's inspection report of completed roofing installation.

1.8 QUALITY ASSURANCE

A. Installer Qualifications: A qualified firm that is approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's warranty.

B. Manufacturer Qualifications: A qualified manufacturer that has UL listing and FMG approval for membrane roofing system identical to that used for this Project.

C. Source Limitations: Obtain components for membrane roofing system approved by roofing membrane manufacturer.

D. Fire-Test-Response Characteristics: Provide membrane roofing materials with the fire-test-response characteristics indicated as determined by testing identical products per test method below by UL, FMG, or another testing and inspecting agency acceptable to authorities having jurisdiction. Materials shall be identified with appropriate markings of applicable testing and inspecting agency.

1. Exterior Fire-Test Exposure: Class A; ASTM E108, for application and roof slopes indicated.

E. Pre-installation Roofing Conference: Before starting removals and roof construction, conduct conference at Project site. Comply with requirements for pre-installation conferences in Division 1 Section "Project Management and Coordination." Review methods and procedures related to roof recover construction and roofing system including, but not limited to, the following:

1. Meet with Owner, Architect, Roof Consultant, and roofing system manufacturer's representative.
2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
3. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
4. Examine existing substrate conditions and finishes for compliance with requirements, including flatness and fastening.
5. Review structural loading limitations of roof deck during and after roofing.
6. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect roofing system.
7. Review governing regulations and requirements for insurance and certificates if applicable.
8. Review temporary protection requirements for roofing system during and after installation.
9. Review roof observation and repair procedures after roofing installation.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, and directions for storing and mixing with other components.

B. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.

1. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.

C. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation. Storage exposed to weather in manufacturer’s original packaging alone is not sufficient. Provide tarps and store above ground on pallets at a minimum.

D. Handle and store roofing materials and place equipment in a manner to avoid permanent deflection of deck. Do Not Stockpile equipment or materials on the roof.

1.10 PROJECT CONDITIONS

A. Requirements Prior to Job Start

1. Pre-Roofing Conference: Roofing Contractor shall schedule a pre-roofing construction conference to be conducted by the Project Architect or his Representative, Roof Consultant, and attended by the installing roofing contractor, the roofing system manufacturer, the Owner’s representative and sub-contractors engaged in the work of this project.
2. Notification: Give a minimum of 5 days’ notice to the Owner, Project Architect, Roof Consultant and Manufacturer prior to commencing any work and notify all parties on a daily basis of any change in work schedule.
3. Permits: Obtain all permits required by local agencies and pay all fees which may be required for the performance of the work.
4. Safety: Familiarize every member of the application crew with all fire and safety regulations recommended by OSHA, NRCA and other industry or local governmental groups.

B. Asbestos Products

1. No Asbestos bearing materials are to be incorporated into the work as a part of this contract. No existing asbestos containing material is to be left or incorporated into the work of this contract.
2. In the event the Contractor finds asbestos containing materials not previously identified, then Contractor shall stop all work in the affected area and notify the Owner and Architect. Contractor shall provide all materials necessary to temporarily dry-in the affected area in the Base Bid. Additional work caused by the discovery, if authorized by the Owner, will be handled as a Change Order to this Contract.

C. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.

D. Protection Requirements

1. Membrane Protection: Provide protection against staining and mechanical damage to newly applied roofing and adjacent surfaces throughout this project.

2. Limited Access: Prevent access by the public to materials, tools and equipment during the course of the project.
3. Debris Removal: Remove all debris daily from the project site and take to a legal dumping area authorized to receive such materials.
4. Site Condition: Complete, to the Owner's satisfaction, all job site clean-up including building interior, exterior and landscaping where affected by the construction.
5. Facility Protection:

    a. Limit size of work sections to safeguard adjacent materials, structures, etc., and to minimize dust and noise.
    b. Protect existing facilities from damage during work. Do not overload existing paving, curbs, sidewalks, etc. with vehicle traffic. Do not overload new or existing construction with demolition debris, equipment, new materials etc.
    c. Protect existing facilities from fire. Contractor shall provide suitable and adequate fire extinguishers conveniently located on the premises at staging areas, storage areas and at areas of equipment. Competent operators shall be in attendance at all times and shall be properly trained or instructed in fire protection.
    d. Site traffic shall be confined to work areas. Contractor shall be responsible for leaks that develop in traffic areas during and after Project completion.
    e. Contractor shall protect interior operations from adverse weather during roofing operations. This requirement extends beyond the immediate project scope of work to adjacent contiguous roof areas.
    f. The Contractor is responsible and shall be held liable for any damages to the adjacent building, building contents, its occupancy, grounds or landscaping resulting from work under the Contract. In the event of damage, Contractor will restore property to a condition equivalent to that at the time the Project started. Restoration may be necessary to construction assemblies not specified in this project manual. In such cases, repair methods and materials are subject to approval by Owner.

6. The Contractor shall keep existing drainage facilities clear of debris during construction.

1.11 WARRANTY

A. Manufacturer’s Warranty: Manufacturer's standard form, without monetary limitation, in which manufacturer agrees to repair or replace components of membrane roofing system that fail in materials or workmanship within specified warranty period. Failure includes roof leaks. Reference WARRANTIES Section 017400

    1. Special warranty includes roofing membrane, base flashings, roofing membrane accessories, cover boards, insulation, walkway products and other components of membrane recover roofing system.
    2. Warranty Period: 20 years from date of Substantial Completion.

        a. Provide a 90 mph Wind Rider with Manufacturer’s Warranty.

B. Special Project Warranty: Submit roofing Installer's watertight warranty, on warranty form provided in WARRANTIES Section 017400, signed by Installer, covering Work of this Section, including all components of membrane roofing system such as roofing membrane, base flashing, flexible sheet and metal flashings, roof recover board, fasteners, sheet metal components, metal siding and walkway products for the following warranty period:

    1. Warranty Period: Two years from date of Substantial Completion.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. In other Part 2 articles where titles below introduce lists, the following requirements apply for product selection:

1. Products: Subject to compliance with requirements, provide one of the products specified.
2. Manufacturers: Subject to compliance with requirements, provide products by the manufacturers specified.

2.2 POLYVINYL-CHLORIDE ROOFING MEMBRANE

A. A high performance, polyester reinforced, thermoplastic polyvinyl chloride (PVC) membrane, meeting or exceeding the minimum requirements of ASTM D4434.

1. Thickness: 60 mils, minimum.

a. Nominal sheets will not be accepted.

2. Field Sheet Width: 10’ max.
3. Perimeter Half Sheet Width: 5’ max.
4. Exposed Face Color: White
5. Physical Properties:

Parameters	**ASTM Test Method**	**ASTM D-4434 Spec. Requirement**
Overall Thickness, mil	D751	45
Reinforcing Material		
Thickness Above Scrim, mil	D7635	16
Felt Weight, oz/yd2		
Breaking Strength, min., lbf/in. (N)	D751	200 (890)
Elongation at Break, min., %	D751	15
Seam Strength min., (% of original)*	D751	75
Retention of Properties After Heat Aging	D3045	56 days @ 176° F
Tensile Strength min., (% of original)	D751	90
Elongation min., (% of original)	D751	90
Tearing Strength, min., lbf (N)	D751	45 (200.0)
Low Temperature Bend -40 °F (-40 °C)	D2136	Pass
Accelerated Weathering Test (Florescent Light, UV exposure), Hours	G151 & G154	5,000
Cracking (7x magnification)	G154	None
Discoloration (by observation)	G154	Negligible
Crazing (7x magnification)	G154	None
Linear Dimensional Change (C.D.), %	D1204	0.5 max.
Weight Change After Immersion in Water, %	D570	± 3.0 max.
Static Puncture Resistance, 33 lbf (15 kg)	D5602	Pass
Dynamic Puncture Resistance, 7.3 ft-lbf (10 J)	D5635	Pass

2.3 AUXILIARY MATERIALS

A. General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with membrane roofing.

1. Liquid-type auxiliary materials shall meet VOC limits of authorities having jurisdiction.

B. Sheet Flashing: Manufacturer's standard unreinforced PVC sheet flashing, 55 mils thick, minimum, of same color as sheet membrane.

C. Bonding Adhesive: Manufacturer's standard solvent-based bonding adhesive for fully adhered membranes and base flashings.

D. Metal Termination Bars: Manufacturer's standard predrilled stainless-steel or aluminum bars, approximately 1 by 1/8 inch (25 by 3 mm) thick; with anchors.

E. Metal Battens: Manufacturer's standard aluminum-zinc-alloy-coated or zinc-coated steel sheet, approximately 1 inch (25 mm) wide by 0.05 inch (1.3 mm) thick, pre-punched.

F. Fasteners: Factory-coated steel fasteners and metal or plastic plates meeting corrosion-resistance provisions in FMG 4470, designed for fastening membrane to substrate, and acceptable to membrane roofing system manufacturer.

G. Miscellaneous Accessories: Provide pourable sealers, preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, T-joint covers, termination reglets, cover strips, and other accessories.

2.4 ROOF INSULATION

A. General: Provide preformed roof insulation boards that comply with requirements and referenced standards, selected from manufacturer's standard sizes and of thicknesses indicated.

B. Polyisocyanurate Board Insulation: 1.5” and 2” ASTM C1289, Type II, Class 1, Grade 3, coated glass facer on both major surfaces, 2" maximum thickness, a minimum of 25 PSI density. Maximum board size is 4ft. x 4ft. for adhesive attachment and 4ft. x 8ft. for mechanical attachment.

C. Tapered Polyisocyanurate Insulation:

1. Provide factory-tapered polyisocyanurate roof insulation boards fabricated to 1/4” per foot slope, with 1/2” starting thickness, as indicated in Project Drawings. Use monolithic board only, factory laminated board is not acceptable.: ASTM C 1289, Type II, Class 1, Grade 3, such as ENRGY3 CGF. Maximum board size is 4ft. x 4ft.
2. Provide factory-tapered polyisocyanurate insulation boards fabricated to slope of ½ inch per 12 inches at all backslopes, crickets between roof drains and saddles on the upslope side of curbs, rails and other roof penetrations exceeding 18” wide.
3. Provide preformed saddles, crickets, tapered edge strips, and other insulation shapes where indicated for sloping around fixed equipment and to drains. At cricket conditions, fabricate to slopes double the normal slope of the roof.

D. Tapered Edge Strips: Wood fiber in full range as provided by Manufacturer from ½ inch to 2-inch at thick edge; Provide 0” – ½” x 6” tapered edge strip at leading edge of tapered insulation saddles.

E. Gypsum Overlayment – Georgia Pacific DensDeck Prime: a minimum 1/4" thick glass mat faced gypsum board with non-asphaltic coating, specifically designed for use as an overlayment or

coverboard furnished by the manufacturer as part of the guaranteed roof system. Must meet or exceed a minimum compressive strength of 150 psi.

2.5 INSULATION ACCESSORIES

A. General: Roof insulation accessories recommended by insulation manufacturer for intended use and compatible with membrane roofing.

B. Insulation Fasteners:

1. Insulation fasteners shall be approved and furnished by the manufacturer of the selected roof system. Fasteners shall be treated with a corrosion resistant coating exceeding FM Approval Standard #4470 and shall be installed with 3” diameter, round, premium Galvalume metal plates.

C. Insulation Adhesive

1. Siplast: ParaStik (JM: Dow Instastik QS; S: Duotack)

2.6 WALKWAYS (Used this Project at HVAC equipment, hatches and ladder step outs)

A. Flexible Walkways: Factory-formed, nonporous, heavy-duty, solid-rubber, slip-resisting, surface-textured walkway pads or rolls, approximately 3/16 inch (5 mm) thick, and acceptable to membrane roofing system manufacturer.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions for compliance with the following requirements and other conditions affecting performance of roofing system:

1. Verify that deck openings and penetrations are in place and set and braced.
2. Verify that abandoned openings have been appropriately covered and attached to existing or new structural members.
3. Verify that wood blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.
4. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Clean substrate existing metal deck surface of dust, debris, moisture, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions. Remove sharp projections.

B. Examine roof deck to verify deck is in sound condition without visible damage or deterioration. Repair or replace existing roof deck as necessary.

C. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system at the end of the workday or when rain is forecast. Remove and discard temporary seals before beginning work on adjoining roofing.

3.3 GENERAL INSULATION INSTALLATION

A. Minimum required roof insulation 4 feet from roof drain valley or building perimeter shall be R-25, as required by ASHRAE 90.1-2022 and current building code. In no case shall the minimum R-Value be less than that stated on Form F-3 on the Key Plan for each construction type.

B. Edges of adjacent insulation boards shall be in moderate contact, without forcing.

C. Gaps in insulation joints over ¼" wide shall be filled.

D. Broken corners and edges of any insulation board shall be cut out and repaired with square-cut pieces of insulation no less that 8" x 8" in size.

E. Insulation boards shall be cut neatly to fit tight against vertical surfaces.

F. Insulation surface shall present a smooth surface to receive the roof membrane.

G. All joints of insulation board layer above base layer insulation shall be offset 24" from joints in base layer or fill insulation, below.

H. All joints in insulation overlay shall be offset 24" from joints of flat and tapered insulation, below.

3.4 INSULATION ATTACHMENT TO METAL DECKS

A. Loose lay 2" polyisocyanurate insulation, 25 PSI density min. over the existing metal decking.

B. Mechanically fasten through base layer of insulation to metal deck substrate with specified fasteners using pattern as found in FM Property Loss Prevention Data Sheets 1-29.

1. At Roof Field: 15 fasteners per 4' x 8' insulation board.
2. At Roof Perimeter (8'): 24 fasteners per 4' x 8' insulation board.
3. At Roof Corners (8 'x 8'): 32 fasteners per 4' x 8' insulation board.

C. Fasten polyisocyanurate insulation to the deck using mechanical fasteners specifically designed and sized for fastening specified board-type roof insulation to deck type.

D. At Roof Areas where slope is in the structure:

1. Adhere in a low-rise foam adhesive two (2) layers of 1.5" thick polyisocyanurate insulation over the base insulation as indicated on the project drawings.
2. Adhere each insulation board, approved and furnished by manufacturer of selected roof system, in ribbons of foamed, insulation adhesive, spaced at 12" centers.
3. At perimeters, decrease adhesive spacing to 6" centers. At corners, decrease adhesive spacing to 4" centers.
4. Size adhesive ribbons in accordance with manufacturer's instructions.
5. Space ribbons approx. 3" in from sides of insulation and overlay boards and extend ribbons to within 3" of board ends
6. Lay boards onto adhesive ribbons, without sliding across roof surface to position in final location.
7. Walk or weigh down all boards down immediately after installation before adhesive has set.
8. Completely remove excess adhesive from surface of overlay boards to provide a plane surface for additional layers of insulation, coverboard, or membrane above.

E. At Roof Areas where there is no slope in the structure:

1. Adhere in a low-rise foam adhesive one (1) layer of 1.5” thick polyisocyanurate insulation over the base insulation as indicated on the project drawings.
2. Adhere in a low-rise foam adhesive ¼” tapered polyisocyanurate insulation over the base insulation as indicated on the project drawings.
3. Adhere each insulation board, approved and furnished by manufacturer of selected roof system, in ribbons of foamed, insulation adhesive, spaced at 12” centers.
4. At perimeters, decrease adhesive spacing to 6” centers. At corners, decrease adhesive spacing to 4” centers.
5. Size adhesive ribbons in accordance with manufacturer’s instructions.
6. Space ribbons approx. 3” in from sides of insulation and overlay boards and extend ribbons to within 3” of board ends
7. Lay boards onto adhesive ribbons, without sliding across roof surface to position in final location.
8. Walk or weigh down all boards down immediately after installation before adhesive has set.
9. Completely remove excess adhesive from surface of overlay boards to provide a plane surface for additional layers of insulation, coverboard, or membrane above.

F. Adhere ½” tapered insulation crickets between roof drains and at all backslopes as shown on drawing sheet R101, offsetting joints of adjacent insulation boards, between rows and layers, a minimum of 24”.

G. Form crickets along the upslope side of all curb mounted equipment with base widths exceeding 18” using factory tapered polyisocyanurate insulation (1/2”:12”), fill units and tapered edge strips. Adhere in low-rise foam adhesive to substrate insulation.

H. Crickets, saddles and tapered edge strips must be installed before application of insulation overlayment.

I. Use tapered edge strip to provide a smooth transition between tapered insulation crickets and base insulation layer.

3.5 INSTALLATION OF INSULATION OVERLAYMENT

A. Adhere each overlayment board, approved and furnished by manufacturer of selected roof system, in ribbons of foamed, insulation adhesive, spaced at 12” centers.

B. At perimeter and corner conditions (8’ wide), decrease adhesive spacing to 6” centers.

C. Size adhesive ribbons in accordance with manufacturer’s instructions.

D. Space ribbons approx. 3” in from sides of insulation and overlay boards and extend ribbons to within 3” of board ends.

E. Lay boards onto adhesive ribbons, without sliding across roof surface to position in final location.

F. Walk or weigh all boards down immediately after installation before adhesive has set.

G. Completely remove excess adhesive from surface of overlay boards to provide a plane surface for membrane above.

H. Offset insulation and overlayment joints a minimum of 12”, in both directions, in each layer and between layers.

3.6 ROOFING MEMBRANE INSTALLATION

A. The surface of the insulation overlayment shall be inspected prior to installation of the PVC roof membrane. The substrate shall be clean, dry, free from debris and smooth with no surface roughness or contamination.

B. Install roofing membrane over area to receive roofing according to roofing system manufacturer's written instructions. Unroll roofing membrane and allow to relax before installing.

C. Start installation of roofing membrane in presence of roofing system manufacturer's technical personnel.

D. Accurately align roofing membranes and maintain uniform side and end laps of minimum dimensions required by manufacturer to meet the design pressures specified in this section. Stagger end laps at a minimum by the width of the membrane roll.

E. Apply roofing with side laps shingled with slope of roof deck where possible.

F. Make sure seam areas are free of debris, dirt, and dust, overlap membrane sheets, and hot-air weld side and end laps of roofing and sheet flashings according to manufacturer's most current requirements to ensure a watertight seam installation.

1. Verify in-field weld strength of seams a minimum of twice daily, repair seam sample areas.
2. Test lap edges with probe to verify seam weld continuity.
3. If any tears or voids in lapped seams are found repair using appropriate approved technique.

G. Adhered System using Solvent Based Adhesive:

1. The ambient temperature shall be above 50°F (10°C).
2. Solvent based adhesive may be applied using a 3/8 in. nap solvent resistant roller.
3. Only the substrate area which can be completely covered with membrane in the same day's operations shall be coated with adhesive. Allow adhesive to dry completely.
4. Apply adhesive to clean, dry and prepared compatible substrates as required to ensure full adhesion at the application rate published on the product data sheet.
5. Coat underside of membrane at the application rate published on the product data sheet and allow to dry slightly to produce strings when touched with a dry finger, the coated membrane shall be rolled onto the previously-coated substrate.
6. Mate the membrane to the substrate avoiding any air entrapment or wrinkles.
7. Do not allow adhesive on the underside of the membrane to dry completely. The bonded sheet shall be pressed firmly in place with a minimum 100 lb steel, membrane roller.
8. Hot-air weld all side and end laps.
9. At PVC terminations at roof edges, walls and curbs, fasten the perimeter edge of the membrane with appropriate fasteners, seam plates or flat termination bars to the horizontal deck or vertical substrate along the termination.
10. Fasten membrane termination 12 in on-centers maximum along membrane terminations. Locate the edge of the fastener plate 1 in or more back from the edge of the membrane.
11. Probe all seams/laps once the hot air welds have thoroughly cooled.
12. Repair all seam deficiencies the same day they are discovered.

3.7 BASE FLASHING INSTALLATION

A. Install sheet flashings and preformed flashing accessories and adhere to substrates according to membrane roofing system manufacturer's written instructions.

B. Apply solvent-based bonding adhesive to substrate and underside of sheet flashing at required rate and allow to partially dry. Do not apply bonding adhesive to seam area of flashing.

C. Flash penetrations and field-formed inside and outside corners with sheet flashing.

D. Clean seam areas and overlap and firmly roll sheet flashings into the adhesive. Weld side and end laps to ensure a watertight seam installation.

E. Terminate and seal top of sheet flashings and mechanically anchor to substrate through termination bars.

3.8 FIELD QUALITY CONTROL

A. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion and submit report to Architect.

1. Notify Architect or Owner 48 hours in advance of date and time of inspection.

B. Repair or remove and replace components of membrane roofing system where test results or inspections indicate that they do not comply with specified requirements.

C. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

3.9 PROTECTING AND CLEANING

A. Protect membrane roofing system from damage and wear during remainder of construction period. When remaining construction will not affect or endanger roofing, inspect roofing for deterioration and damage, describing its nature and extent in a written report, with copies to Architect and Owner

B. Correct deficiencies in or remove membrane roofing system that does not comply with requirements, repair substrates, and repair or reinstall membrane roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.

C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

3.10 ROOFING INSTALLER'S WARRANTY

A. Reference Section 017400 “Warranties and Bonds” for a copy of the Contractor’s Watertight Warranty.

END OF SECTION 075419

SECTION 08412 - ALUMINUM-FRAMED ENTRY DOOR

PART 1 - GENERAL

1.1 Related Documents

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 Summary

This Section includes Kawneer Aluminum Entry Door, glass and glazing.

1. Types of Kawneer Aluminum Entry Doors include.

    a. 350 Heavy Wall™ IR Swing Door; Medium stile, 3-1/2" (89 mm) vertical face dimension, 2" (51 mm) depth, 3/16" (5 mm) wall thickness high traffic applications.

B. Related Sections.

1. 079200 “Joint Sealants”.
2. 087000 "Hardware".
3. 088000 "Glazing".

1.3 Definitions

A. Definitions: For fenestration industry standard terminology and definitions refer to American Architectural Manufactures Association (AAMA) – AAMA Glossary (AAMA AG).

1.4 Performance Requirements

A. General Performance: Aluminum-framed entrance system shall withstand the effects of the following performance requirements without failure due to defective manufacture, fabrication, installation, or other defects in construction.

B. Aluminum-Framed Entrance Performance Requirements.

1. Wind loads: Provide storefront system; include anchorage capable of withsanding wind load design pressures as shown on the Structural Drawings.
2. Air Infiltration: For single acting offset pivot or butt hung entrances in the closed and locked position, the test specimen shall be tested in accordance with ASTM E 283 at a pressure differential of 1.57 psf (75 Pa) for single doors and for pairs of doors. A single 3'0" x 7'0" (915 mm x 2134 mm) entrance door and frame shall not exceed 1.0 cfm/ft^2. A pair of 6'0" x 7'0" (1830 mm x 2134 mm) entrance doors and frame shall not exceed 1.0 cfm/ft^2.
3. Structural Performance: Corner strength shall be tested per the Kawneer dual moment load test procedure and certified by an independent testing laboratory to ensure weld compliance and corner integrity [Testing procedure and certified test results available upon request].
4. Uniform Load: A static air design load of 85 psf (4070 Pa), (65 psf (3113 Pa) for laminated infill) shall be applied in the positive and negative direction in accordance with Florida Building Code TAS202 and ASTM E 330. There shall be no deflection in excess of L/180 of the span of any framing member. At a structural test load equal to 1.5 times the specified design load, no glass breakage shall occur.

5. Windborne-Debris-Impact Resistance Performance: Shall be tested in accordance with ASTM E1886, information in ASTM E1996, and TAS 201/203.

    a. Large-Missile Impact: For aluminum-framed systems located within 30 feet (9.1m) of grade.
    b. Small-Missile Impact: For aluminum-framed systems located above 30 feet (9.1 m) of grade.

6. Blast Mitigation Performance: Shall be tested or proven through analysis to meet ASTM F1642, GSA-TS01, and UFC 04-010.01 performance criteria.
   To meet UFC 04-010-01, B-3.1 Standard 10 for Windows and Skylights, the following options are available:

    a. Section B-3.1.1 Dynamic analysis.
    b. Section B-3.1.2 Testing.
    c. Section B-3.1.3 ASTM F2248 Design Approach.

7. Forced Entry: Tested in accordance with AAMA 1304.

A. Environmental Product Declaration (EPD): Shall have a Type III EPD.

B. Material Ingredient Reporting: Shall have a complete list of chemical ingredients to at least 100ppm (0.01%) that covers 100% of the product, acceptable documentation includes:

1. Manufacturer's inventory with Chemical Abstract Service Registration Number (CASRN or CAS#).

    a. Kawneer's Material Transparency Summary (MTS).

1.5 Submittals

A. Product Data: Include construction details, material descriptions, and fabrication methods, dimensions of individual components and profiles, hardware, finishes, and installation instructions for each type of aluminum-framed entrance door indicated.

B. Shop Drawings: Include plans, elevations, sections, details, hardware, and attachments to other work, operational clearances and installation details.

C. Samples for Initial Selection: For units with factory-applied color finishes including samples of hardware and accessories involving color selection.

D. Samples for Verification: For aluminum-framed entrance door and components required.

E. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency for each type of aluminum-framed entrance doors.

F. Fabrication Sample: Corner sample consisting of a door stile and rail, of full-size components and showing details of the following.

1. Joinery, including welds.
2. Glazing.

G. Other Action Submittals.

1. Entrance Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing fabrication and assembly of entrance door hardware, as well as procedures and diagrams. Coordinate final entrance door hardware schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of entrance door hardware.

1.6 Quality Assurance

A. Installer Qualifications: An installer which has had successful experience with installation of the same or similar units required for the project and other projects of similar size and scope.

B. Manufacturer Qualifications: A manufacturer capable of fabricating aluminum-framed entrance doors and storefronts that meet or exceed performance requirements indicated and of documenting this performance by inclusion of test reports, and calculations.

C. Source Limitations: Obtain aluminum-framed entrance doors through one source from a single manufacturer.

D. Product Options: Drawings indicate size, profiles, and dimensional requirements of aluminum-framed entrance doors and are based on the specific system indicated. Refer to Division 01 Section “Product Requirements”. Do not modify size and dimensional requirements.

1. Do not modify intended aesthetic effects, as judged solely by Architect, except with Architect's approval. If modifications are proposed, submit comprehensive explanatory data to Architect for review.

E. Pre-installation Conference: Conduct conference at Project site to comply with requirements in Division 01 Section “Project Management and Coordination”.

1.7 Project Conditions

A. Field Measurements: Verify actual dimensions of aluminum-framed entrance door openings by field measurements before fabrication and indicate field measurements on Shop Drawings.

1.8 Warranty

A. Manufacturer’s Warranty: Submit, for Owner’s acceptance, manufacturer’s standard warranty.

1. Warranty Period: Two (2) years from Date of Substantial Completion of the project provided however that the Limited Warranty shall begin in no event later than six months from date of shipment by manufacturer.

PART 2 - PRODUCTS

2.1 Manufacturers

A. Basis-of-Design Product:

1. Kawneer Company Inc..
2. The door stile and rail face dimensions of the enry entrance door will be as follows:

Door	Vertical Stile	Top Rail	Bottom Rail	Optional Bottom Rail
350 Heavy Wall™ IR	3-1/2" (89 mm)	3-1/2" (89 mm)	6-1/2" (166 mm)	10" (254 mm)

3. Major portions of the door members to be 0.188" (5 mm) nominal in thickness and glazing molding to be 0.05" (1.5 mm) thick.
4. Glazing gaskets shall be either EPDM elastomeric extrusions or a thermoplastic elastomer.

5. (350/500 Heavy Wall™) Provide adjustable glass jacks to help center the glass in the door opening.
6. Or approved equivalent per Section 01632.

B. Substitutions: Refer to Substitutions Section for procedures and submission requirements.

1. Pre-Contract (Bidding Period) Substitutions: Submit written requests ten (10) days prior to bid date.
2. Post-Contract (Construction Period) Substitutions: Submit written request in order to avoid aluminum-framed entrance door installation and construction delays.
3. Product Literature and Drawings: Submit product literature and drawings modified to suit specific project requirements and job conditions.
4. Certificates: Submit certificate(s) certifying substitute manufacturer (1) attesting to adherence to specification requirements for aluminum-framed entrance door system performance criteria, and (2) has been engaged in the design, manufacturer and fabrication of aluminum-framed entrance doors for a period of not less than ten (10) years. (Company Name)
5. Test Reports: Submit test reports verifying compliance with each test requirement required by the project.
6. Samples: Provide samples of typical product sections and finish samples in manufacturer's standard sizes.

C. Substitution Acceptance: Acceptance will be in written form, either as an addendum or modification, and documented by a formal change order signed by the Owner and Contractor.

2.2 Materials

A. Aluminum Extrusions: Alloy and temper recommended by aluminum-framed entrance door manufacturer for strength, corrosion resistance, and application of required finish and not less than 0.090" (3 mm) wall thickness at any location for the main frame and door leaf members.

B. Fasteners: Aluminum, nonmagnetic stainless steel or other materials to be non-corrosive and compatible with aluminum-framed entrance door members, trim hardware, anchors, and other components.

C. Anchors, Clips, and Accessories: Aluminum, nonmagnetic stainless steel, or zinc-coated steel or iron complying with ASTM B 633 for SC 3 severe service conditions or other suitable zinc coating; provide sufficient strength to withstand design pressure indicated.

D. Reinforcing Members: Aluminum, nonmagnetic stainless steel, or nickel/chrome-plated steel complying with ASTM B 456 for Type SC 3 severe service conditions, or zinc-coated steel or iron complying with ASTM B 633 for SC 3 severe service conditions or other suitable zinc coating; provide sufficient strength to withstand design pressure indicated.

1. Weather Seals: Provide weather stripping with integral barrier fin or fins of semi-rigid, polypropylene sheet or polypropylene-coated material. Comply with AAMA 701/702.

2.3 Glazing

A. Glazing: As specified in Division 08 Section “Glazing”.

B. Glazing Gaskets: Manufacturer's standard compression types; replaceable, extruded EPDM rubber.

C. Spacers and Setting Blocks: Manufacturer's standard elastomeric type.

2.4 Fabrication

A. Fabricate aluminum-framed entrance doors in sizes indicated. Include a complete system for assembling components and anchoring doors.

B. Fabricate aluminum-framed entrance doors that are reglazable without dismantling perimeter framing.

1. Door corner construction shall consist of mechanical clip fastening, SIGMA deep penetration plug welds and 1-1/8" (29 mm) long fillet welds inside and outside of all four corners. Glazing stops shall be hook-in type with EPDM glazing gaskets reinforced with non-stretchable cord.
2. Accurately fit and secure joints and corners. Make joints hairline in appearance.
3. Prepare components with internal reinforcement for door hardware.
4. Arrange fasteners and attachments to conceal from view.

C. Weather-stripping: Provide weather-stripping locked into extruded grooves in door panels or frames as indicated on manufacturer’s drawings and details.

2.5 Aluminum Finishes

A. Finish designations prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes.

B. Factory Finishing.

1. Kawneer Permanodic™ AA-M10C21A44 / AA-M45C22A44, AAMA 611, Architectural Class I Color Anodic Coating

PART 3 - EXECUTION

3.1 Examination

A. Examine openings, substrates, structural support, anchorage, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of work. Verify rough opening dimensions, levelness of sill plate and operational clearances. Examine wall flashings, vapor retarders, water and weather barriers, and other built-in components to ensure a coordinated installation.

1. Masonry Surfaces: Visibly dry and free of excess mortar, sand, and other construction debris.
2. Wood Frame Walls: Dry, clean, sound, well nailed, free of voids, and without offsets at joints. Ensure that nail heads are driven flush with surfaces in opening and within 3 inches (76.2 mm) of opening.
3. Metal Surfaces: Dry; clean; free of grease, oil, dirt, rust, corrosion, and welding slag; without sharp edges or offsets at joints.
4. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 Installation

A. Comply with Drawings, Shop Drawings, and manufacturer's written instructions for installing aluminum-framed entrance doors, hardware, accessories, and other components.

B. Install aluminum-framed entrance doors level, plumb, square, true to line, without distortion or impeding thermal movement, anchored securely in place to structural support, and in proper relation to wall flashing and other adjacent construction.

C. Set sill threshold in bed of sealant, as indicated, for weather tight construction.

D. Separate aluminum and other corrodible surfaces from sources of corrosion or electrolytic action at points of contact with other materials.

3.3 Field Quality Control

A. Manufacturer's Field Services: Upon Owner’s written request, provide periodic site visit by manufacturer’s field service representative.

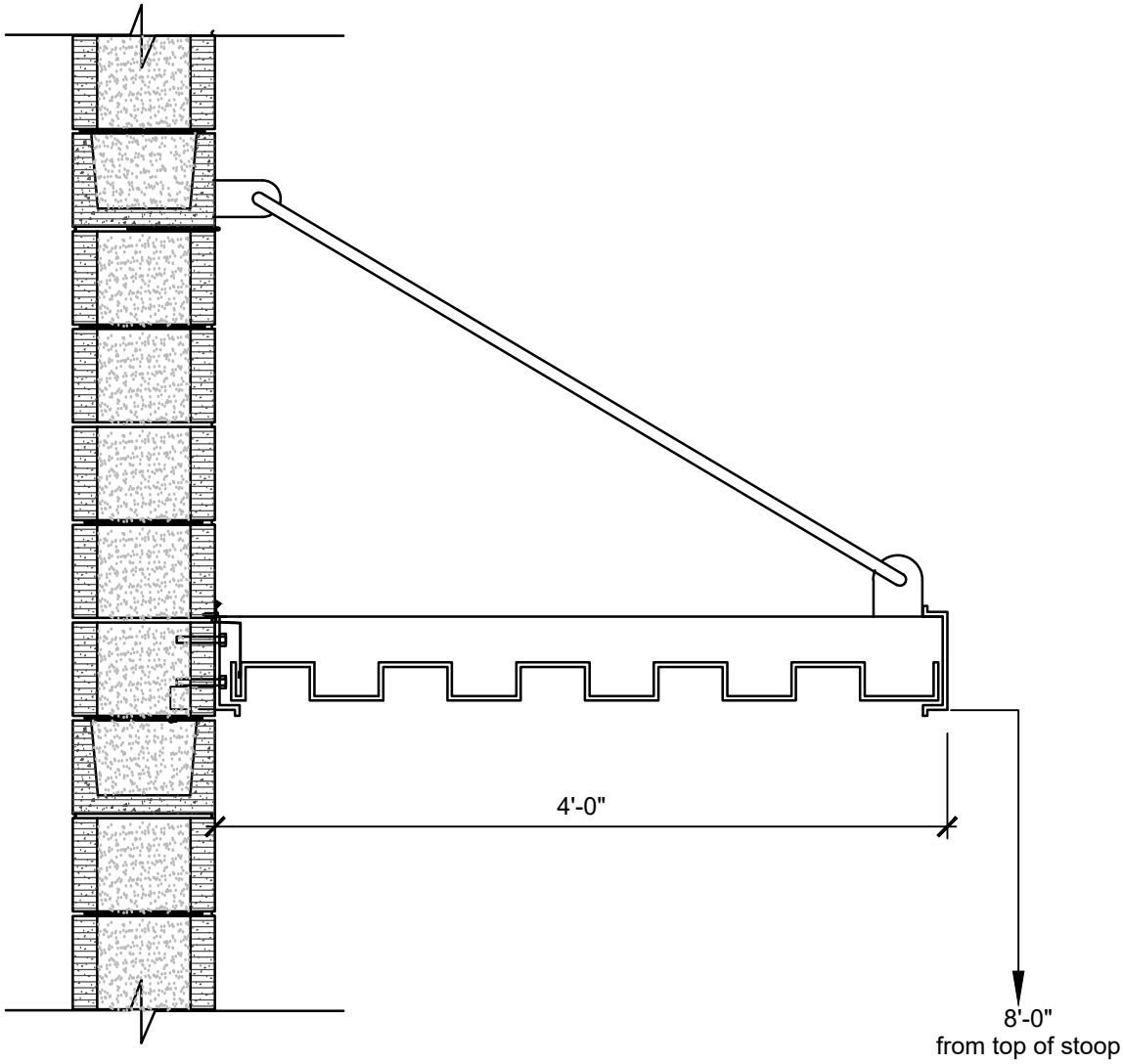
3.4 Adjusting, Cleaning, and Protection

A. Clean aluminum surfaces immediately after installing aluminum-framed entrances. Avoid damaging protective coatings and finishes. Remove excess sealants, glazing materials, dirt, and other substances.

B. Clean glass immediately after installation. Comply with glass manufacturer's written recommendations for final cleaning and maintenance. Remove nonpermanent labels, and clean surfaces.

C. Remove and replace glass that has been broken, chipped, cracked, abraded, or damaged during construction period.

END OF SECTION 08412



EYEBROW CANOPY:
4'-0"x 5'-0" aluminum canopy shall be entirely of anodized aluminum extrusions. Understructure shall consist of heli-arc weld one-piece rigid bents and the deck of the interlocking anodized aluminum extrusions. The structure shall be capable of sustaining severe icing, hail, and hurricane winds. Color to be determined.

SHEET TITLE
Eyebrow canopy Addendum #2

SHEET NO.
B1

PROJECT NUMBER
2025-2006

DRAWN: DP
CHECKED:

DATE: 10/24/25

PROJECT
HGTC AUTOMOTIVE TECHNOLOGY BUILDING 1400 EXPANSION

CONWAY SOUTH CAROLINA

HORRY GEORGETOWN TECHNICAL COLLEGE

STATE OF SOUTH CAROLINA GREGORY T. McFARLAND MYRTLE BEACH, S.C. 5047 REGISTERED ARCHITECT

STATE OF SOUTH CAROLINA Croft &Associates SC, LLC MYRTLE BEACH, S.C. 102094 REGISTERED ARCHITECTS

PMH CROFT ARCHITECTS • ENGINEERS
1300 Professional Drive, Suite 201
Myrtle Beach, South Carolina 29577
843.497.0272 (p) 843.497.0271 (f)
generalinfo@pmhcroft.com